A study to assess the knowledge and practice of universal precautions among health workers in Primary Health Centres under Anekal Taluk, Bangalore with a view to develop an information booklet.

By

Ms Rubey Peter Cherian

Dissertation submitted to the

Rajiv Gandhi University of Health Sciences,

Bangalore, Karnataka.

In partial fulfilment of the requirements for the degree of

Master of Science in Nursing

in

Community Health Nursing

Under the guidance of

Prof.Mercy P.J

Head of the Department of Community Health Nursing

St. John's College of Nursing

St. Johns National Academy of Health Sciences

Bangalore-560034

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DECLARATION BY THE CANDIDATE

I hereby declare that this dissertation entitled **"A study to assess the knowledge and practice of universal precautions among health workers in primary health centres under Anekal Taluk,Bangalore with a view to develop an information booklet"** is a bonafide and genuine research work carried out by me, under the guidance of **Prof.Mrs Mercy P.J,Head of the department of Community Health Nursing**,St Johns College of Nursing and **Dr.Dominic Misquith, Prof.Department of Community Health,** St.John's Medical College Hospital, Bangalore.

Reg .No: 09NC005

Signature of the candidate

Date: 29/1/11

Ms Rubey Peter Cherian

Place: Bangalore

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This is to certify that the dissertation entitled **"A study to assess the knowledge and practice of universal precautions among health workers in Primary health centers under Anekal taluk,Bangalore with a view to develop an information booklet"** a bonafide research work done by Ms Rubey Peter Cherian ,in partial fulfilment of the requirement for the degree of **Master of Science in Nursing**

Signature of the guide

Mrs Mercy P.J

Professor and Head

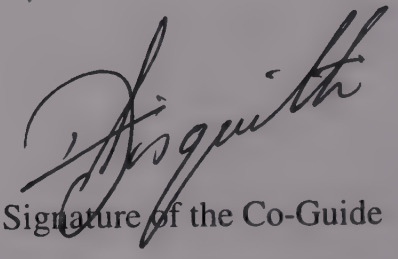
Department of community health nursing

Date: 24/1/11

Place: Bangalore

CERTIFICATE BY THE CO-GUIDE

This is to certify that the dissertation entitled **"A study to assess the knowledge and practice of universal precautions among health workers in primary health centres under Anekal taluk,Bangalore with a view to develop an informational booklet"** _ is a bonafide research work done by Ms Rubey Peter Cherian ,in partial fulfilment of the requirement for the degree of **Masters of Science in Nursing.**



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Department of Community health

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Date: 24/1/11

Place: Bangalore

ENDORSEMENT BY THE H.O.D,PRINCIPAL/HEAD OF THE INSTITUTION

This is to certify that the dissertation entitled "**A study to assess the knowledge and practice of universal precautions among health workers in primary health centers under Anekal taluk,Bangalore with a view to develop an information booklet"** is a bonafide research work done by **Ms Rubey Peter Cherian** under the guidance of **Prof Mercy P.J,**Head of Department of Community Health Nursing,St.John's College of Nursing,Bangalore-34.

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Date: 24/01/2011.

Place: Bangalore

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Declaration by the candidate

I hereby declare that Rajiv Gandhi University of Health Sciences, Karnataka shall have the rights to preserve, use and disseminate this dissertation in print or electronic format for academic or research purpose.

Date: 24/1/11

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Date: 24/1/11

Place: Bangalore

Signature of the candidate

Ms Rubey Peter Cherian

ABSTRACT

Background

The centre for disease control (CDC) established guidelines known as universal precautions to prevent transmission of blood borne pathogens in hospital settings. Implementation of universal precautions assumes every patient is a potential harbour of HIV and other blood borne pathogens. Therefore appropriate measures to avoid blood borne pathogens and mucous membrane exposure to blood and body fluids should be enacted

Universal precautions involve the use of protective barriers such as gloves. gowns, aprons, masks of protective barriers which can reduce the risk of exposure of health care workers to potentially infected materials. In addition it is recommended that all health care workers take precautions to prevent injury by needles, scalpels and other sharp instruments or devices .Most studies have shown decrease in related type of injuries but the results are variable in some others. This is due to failure to use protective device ,unavailability of the devices and belief that compliance is not protective. This can be minimized by implementation of training of the health workers on the importance of adopting universal precautions.

Objectives of the study

1. To assess the knowledge of universal precautions among health workers in primary health centres under Anekal Taluk

2. To assess the practice of universal precautions among Health workers in primary health centres under Anekal Taluk

3. To find correlation between knowledge of Health workers and their practices of universal precautions.

4. To determine association between knowledge of universal precautions among health workers and selected base line variables(age, years of experience, designation, income, education, previous training attended)

5.To determine association between practice of universal precautions among health workers and selected base line variables(age, years of experience, designation, income, education, previous training attended)

METHODS

The research design selected for this study was a descriptive design. The setting selected was all the primary health centres under Anekal Taluk.35 female health assistants working in these health centres were selected for this study using purposive sampling. Injection procedures performed by the health workers were observed twice by the investigator and the knowledge questionnaire was administered. The collected data was analyzed using descriptive statistics.

RESULTS

The findings of the study revealed that most (71%) of the health workers had inadequate knowledge about universal precautions .None of them had adequate knowledge. All the health workers had poor practices of universal precautions. None of the health workers had adequate supply of resources at their centres for practicing universal precautions. There was a significant association between the knowledge levels of the health workers and their age, years of experience and income.

Interpretation and conclusion

Though some (29%) of the health workers had moderately adequate knowledge none of them had good practice of universal precautions.

The investigator hopes that the informational booklet prepared will help to impart knowledge and improve practices of universal precautions among the health workers. Adequate supply of resources at the peripheral levels would also contribute to improved practices of universal precautions

Key Words

Universal precautions, Health workers, Primary health centres, Knowledge, practice.

LIST OF ABBREVATIONS USED

HIV	:	Human Immuno deficiency Virus
HBV	:	Hepatitis B virus
HCV	:	Hepatitis C virus
CDC	:	Centres for disease control
OSHA	:	Occupational Safety and Health Administration
AIDS	:	Acquired Immuno Deficiency Syndrome
CSF	:	Cerebro spinal Fluid
WHO	:	World Health Organisation
HCWs	:	Health Care Workers
BBF	:	Blood & Body Fluids
SP	:	Standard Precautions
PPE	:	Personal protective equipment
PHC	:	Primary Health Centre
SD	:	Standard Deviation
%	:	Percentage
Sl.No.	:	Serial Number
NS	:	Not significant

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INTRODUCTION

1.INTRODUCTION

Background of the study.

"Protect thyself before serving."

CDC Objective

Health care workers are often exposed to blood and other body fluids while working in health care settings. Consequently, they are at risk of contracting infection with blood borne pathogens such as HIV, HBV, and HCV etc. It is the nursing personals who are in direct contact with blood and body fluids continually during work and require protection the most to avoid occupational hazards of acquiring diseases. The term universal precaution means taking routine safe working practice to protect staff and patients from infection from blood and body fluids[1].

Universal precautions were first officially recommended in 1987 in USA by the centers for disease control (CDC).These guidelines required workers to routinely use barrier precautions when contact with blood or certain body fluids were anticipated. These guidelines were updated in 1989 to include more specific recommendations. The occupational safety and health administration (OSHA) published its blood borne pathogen standard in 1991 requiring institutions to train all workers at risk to provide hepatitis B vaccine and implement and monitor compliance with universal precautions. The CDC included universal precautions in a new prevention concept called "standard precautions" which are designed for the care of all patients regardless of their diagnosis or presumed infections status. In 1990, the department of health expert advisory group on AIDS recommended the implementation of universal precautions[1].

In 1993, the department of health recommended that the staff involved in the exposure prone procedures (i.e. where there is a risk that injury to health care worker may cause bleeding in to a patients open tissue) are screened for various infections.[1]

The centre for disease control (CDC) established guidelines known as universal precautions to prevent transmission of blood borne pathogens in hospital settings. Implementation of universal precautions assumes every patient is a potential harbor of HIV and other blood borne pathogens. Therefore appropriate measures to avoid blood borne pathogens and mucous membrane exposure to blood and body fluids should be enacted.[1]

Universal precautions involve the use of protective barriers such as gloves, gowns, aprons, masks of protective barriers which can reduce the risk of exposure of health care workers to potentially infected materials. In addition it is recommended that all health care workers take precautions to prevent injury by needles, scalpels and other sharp instruments or devices. Most studies have shown decrease in related type of injuries but the results are variable in some others. This is due to failure to use protective device, unavailability of the devices and belief that compliance is not protective. This can be minimized by implementation of training of the health workers on the importance of adopting universal precautions.

All health workers ought to follow universal precautions in order to reduce the incidences of raising blood borne infections among health care workers worldwide. This area of research has received relatively little attention from investigators and funding agencies...The research described in this issue of infection control demonstrates that the protection of health workers must be high priority for investigators, funding agencies and peer reviewed journals. Only by continuing to learn from our experiences with exposures and injury in a wide range of health care

setting will we have the opportunity to provide health care in a safe and efficient work environment.

Additional well designed research studies are needed to improve our understanding of blood exposure, injury and underreporting among health workers Innovative intervention studies are necessary to determine how we can better protect health workers in a range of health care setting [2]

Need for study

Universal precautions refers to the practice ,in medicine, of avoiding contact with patients bodily fluids ,by means of wearing non porous articles such as gloves, mask, goggles ,gown and boots. Medical instruments, especially scalpels and hypodermic needles should be handled carefully and disposed of properly in sharps containers. Universal precautions should be practiced in any environment where workers are exposed to bodily fluids such as blood, sputum, saliva, semen, vaginal secretions, urine, vomits, CSF, pleural fluid and pericardial fluid as these fluids may be infected and if contacted with individuals, health workers becomes the mode of transmission for microorganism from one place to another, from one person to another.

Universal precautions are the infection control techniques that were recommended following the AIDS outbreak in 1980s.Essentially it means that every patient is treated as if they are infected and therefore precautions are taken to minimize risk. Essentially, universal precautions are good hygiene habits, such as hand washing and use of gloves and other barrier, correct sharps handling and aseptic techniques. Additional precautions are used in addition to universal precautions for

patients who are known or suspected to have infectious conditions and vary depending upon the infection control needs of that patient.

Doctors, nurses, ward boys, technicians and others who come into contact with all blood and body fluids should be protected against various infections including HIV. This requires standard protective equipments such as gloves when handling blood and body fluids and training in a proper way to handle and dispose off needles and sharp objects. Such precautions protect health care workers against all infections including HIV, Hepatitis B AND Hepatitis C[3]

A study was conducted by WHO for estimation of global burden of diseases attributable to contaminated sharps injuries among health care workers. Its results showed that overall 16,000 HCV, 66,000 HBV and 1,000 HIV infections may have occurred in the year 2000 worldwide among health care workers (HCWs) due to occupational exposure to occupational percutaneous injuries[4]

Protecting both health personnel and patients from blood borne diseases in the health care setting will create an environment supporting rational treatment of people regardless of their infected status[2]. Unfortunately, it is observed that few health service providers whether public hospital or private nursing homes provide adequate equipment to their staff. As a result, the adherences to universal precautions by health workers have found to be unsatisfactory.

A study was conducted in Germany with an objective to describe the mechanisms and preventability of occupational percutaneous blood exposure of health workers through needle stick injuries and to discuss rational strategies for prevention. In a first step the number and kind of needle stick injuries and in second step the reasons for injuries and the working condition of health workers were identified. Both data sets were collected in independent anonymous questionnaire covering

occupational blood exposure among health workers in a university hospital. The result concluded that occupational exposure to blood is a common problem among health workers. The introduction to safety devices is one of the main starting points for avoidance of needle stick injuries. Further targets for preventive measures, such as training in safe working routines, are necessary for improvement of safe working conditions. [5]

A study was conducted in Nigeria to know the practice of universal precautions among health workers. Health workers are exposed to blood borne infections by pathogens such as HIV, and hepatitis B and C virus as they perform their clinical activities in the hospital. Compliance with universal precautions has been shown to reduce the risk of exposure to blood and body fluids. The study concluded that non compliance with universal precautions places the Nigerian health workers at significant health risks. Training program and other relevant measures should be put in place to promote the appropriate use of protective barrier equipment by health care workers at all times. [6]

A study was conducted to know about blood and body fluid exposure risks among health care workers with an objective to better define BBF exposure risk and risk factors among employees of a large tertiary medical centre. Needle stick injuries and splashes place health care workers at risk for numerous blood borne infections including HIV, hepatitis B And hepatitis C. The study was conducted with a population of 24,425 health care workers employed in jobs with potential blood and body fluid exposures from 1998-2002.The results revealed that the study population reported 2,730blood and body fluid exposures during the study period. The study concluded that while continued training efforts need to be directed towards new health care workers; the data also suggested that employees who have been in their job 1-4

years continue to be at higher risk of blood and body fluid exposures. This research also points to the need for better safety devices and work practices to reduce suture related injuries.[7]

A study conducted in Nepal to assess the knowledge and compliances risk of infection among primary health workers showed that 43% of health workers had correct knowledge about universal precautions and only 35% of health workers were regularly following its guide lines. The study called for an urgent formal training in universal precautions. It also suggested that protective equipment is to be provided while monitoring and disciplinary measure for poor compliances are necessary to improve infection control in primary health care units.[8]

A study conducted in United states to assess the adherence of lab personals to universal precautions concluded that more than 60% of residents and students sustained contacts with blood, mucous membranes and broken skin or potentially infectious sources due to lack of compliance with universal precautions[9]

. Another study conducted to know about blood and body fluid exposure risks among health care workers in a large tertiary medical center in Pakistan revealed that out of 24,425 population studied, 2,730 reported bloods and body fluid exposure during the study period. The study revealed that training efforts need to be directed towards implementation of universal precaution among health care workers during work[10].

A cross sectional study conducted among rural nurses in South Africa suggested that there was an urgent need for training of rural nurses and for wider implementation of universal precautions. According to the study 76.1% of the nurses reported that they followed universal precautions but lack of injection safety was found out [11]

In India, a study was conducted in Patiala, Punjab among 150 health care workers of a government hospital. The study concluded that there was a poor knowledge about blood borne infections among the study subjects.79.3%of the HCWs knew that there was a risk of transmission of HIV and HBV through infected blood. However only 10% of them were aware about HCV transmission.8.7% thought that only HIV could be transmitted through blood and body fluids. There was some awareness regarding universal precaution however adherence was found to be unsatisfactory. Only 10% of the subjects adhered to universal precautions.73.3% of HCWs was vaccinated against infections like Hepatitis B[12].

Compliance with infection control precautions in clinical settings have not been studied exhaustively. Based on few articles available however it seems that though the health care workers especially nurses have some knowledge regarding universal precautions, they do not follow it appropriately

Therefore the investigator assumes that proper awareness regarding universal precautions will encourage the nurses to adopt universal precautions during their work since they are exposed to blood and body fluids continuously. As a community health nurse, and being concerned about the welfare of all nursing personals, the investigator can develop booklet regarding universal precautions which can help reduce the incidences of infections due to non adherence to universal precautions.

Statement of the problem

"A Study to assess the knowledge and practices of universal precautions among Health workers in Primary Health Centers under Anekal Taluk, Bangalore with a view to develop an information booklet"

OBJECTIVES

2. OBJECTIVES.

Problem statement

"A Study to assess the knowledge and practices of universal precautions among Health workers in Primary Health Centers under Anekal Taluk, Bangalore with a view to develop an information booklet"

Objectives of the study

1. To assess the knowledge of universal precautions among health workers in primary health centers under Anekal Taluk

2. To assess the practice of universal precautions among Health workers in primary health centers under Anekal Taluk

3. To find correlation between knowledge of Health workers and their practices of universal precautions.

4. To determine association between knowledge of universal precautions among health workers and selected base line variables (age, years of experience, designation, income, education, previous training attended)

5. To determine association between practice of universal precautions among health workers and selected base line variables(age, and years of experience)

Operational definitions

1) **Universal precautions:-**

Simple infection control measures that reduce risk of transmission of blood borne pathogens through exposure to blood or body fluids among health care workers, basic elements include:-

- Hand washing:
- Barrier precautions
- Strict asepsis
- Decontamination
- Appropriate waste disposal

2) **Knowledge:-**

In this study knowledge refers to awareness of Health workers regarding universal precautions, methods of universal precautions to be adopted before, during and after procedures and hazards of not adopting universal precautions as measured and scored by a knowledge questionnaire

3) **Practice :-**

In this study refers to steps of universal precautions adopted by health workers while administering injections.

4) **Health workers**:-.

In this study refers to trained lady health workers in primary health centers under Anekal Taluk who are designated as "senior health assistant (female)",

junior health assistant (female) and Lady Health visitors and who carry out Injection procedures during the time of the study.

5) **Primary health centers**: - Basic government health units under Anekal Taluk which provides preventive, promotive and curative services to a minimum population of 30,000.

6) **Information booklet:-**

An educational booklet regarding information about universal precautions, methods of universal precautions to be adopted before, during and after procedures and hazards of not adopting universal precautions.

7) **Base line variables**:-

In this study refers to age, years of experience, designation, income, education and training attended by the Health workers.

Conceptual framework.

A conceptual model is a group of concepts of ideas that are related. It provides a certain frame of reference for clinical practice, research and education. It gives direction to research for relevant questions on phenomena and points out solutions to practical problems. A conceptual framework provides an abstract and a logical structure to a study which enables the researcher to link the study findings to nursing existing body of knowledge, thereby providing a context for interpreting the findings and making possible the development of a new theory or improvement of existing

theory .It is the structure within which a study is developed and serves to link the component of the study together.[13]

Polit and Hungler describes conceptual framework as group of mental images of concepts which are related but the relationship is not explicit. The conceptual framework provides a foundation for suggestions for relationship among variables.[14]

The conceptual framework which suits the present study is based on General systems model approach developed by Ludwig Von Bertalanffy (1968) as explained by Newby (1996) and is called open system model. The system consists of a set of interacting components, with a boundary that filters both the kind and rate of flow of inputs and outputs from the system". The general system theory is concerned with changes due to interaction between the various factors (variables) in a situation. In human beings, interaction between person and environment change continuously. The general systems theory provides a way to understand the many influences on the whole person and the possible input of change of any part of the whole.[15]

The main concepts of general systems theory are input, throughput and output. The input refers to any other form of information, energy or material that enters in to the system through its boundary. Throughput refers to the process whereby the system transforms, creates and organizes. Output refers to energy information or matter that is transferred to the environment as a result of throughput.[16]

Input: The input in this study refers to the baseline variables of the health workers which are assumed to have an influence on their knowledge and practice of universal precautions. The baseline variables include age of the health workers, years of experience, designation, basic education, income and previous training attended.

Throughput: Throughput is the process that occurs at some point of time between the input and output process, which enables the input to be transferred as output in such a way that it can be readily used by the systems. In this study throughput refers to the assessment of practice using an observational checklist and assessment of knowledge by administration of structured questionnaire.

Output: In this study refers to the knowledge and practice of universal precautions among health workers as identified by the investigator and the development of an information booklet based on the identified needs of the health workers

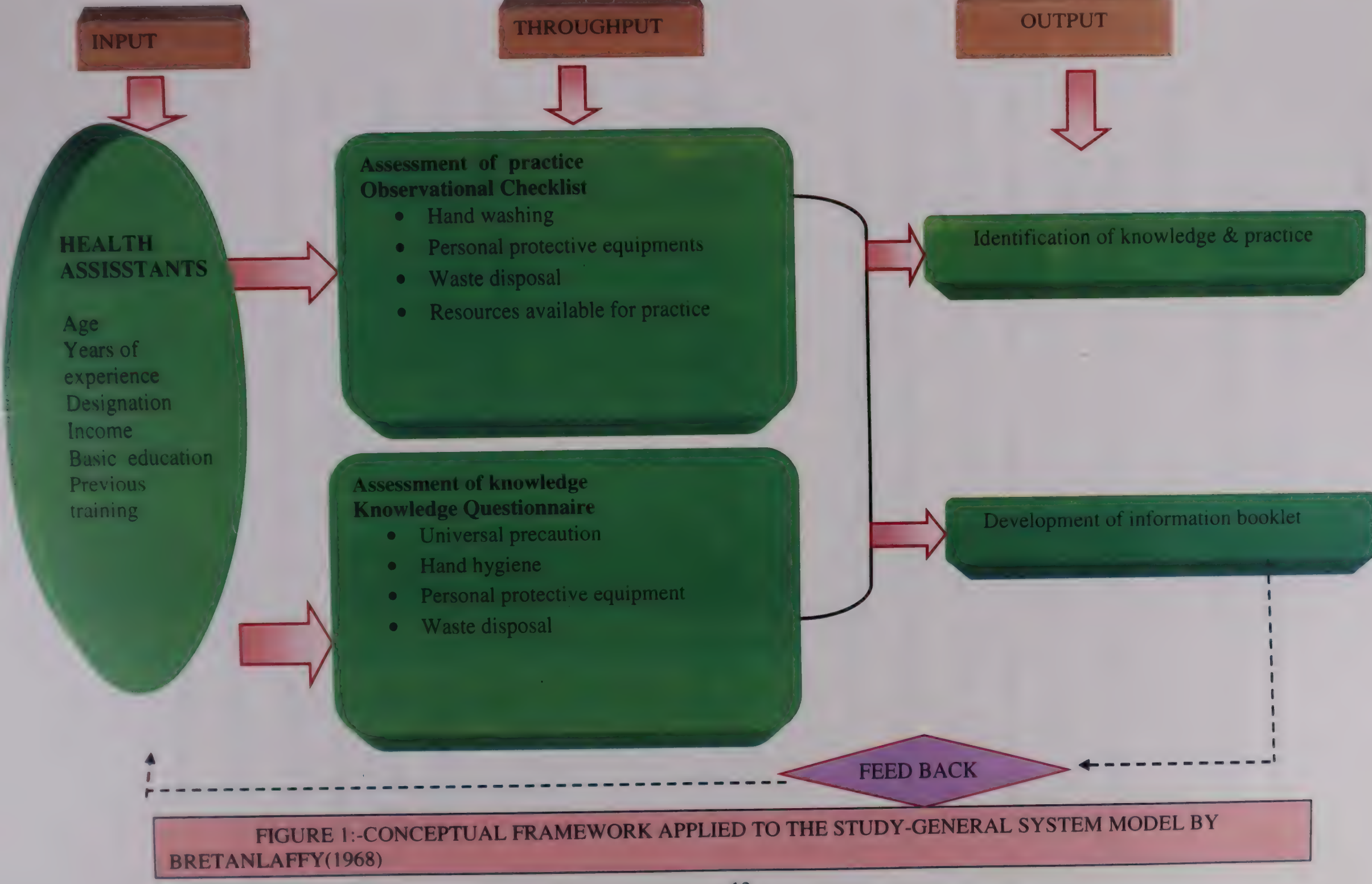

FIGURE 1:-CONCEPTUAL FRAMEWORK APPLIED TO THE STUDY-GENERAL SYSTEM MODEL BY BRETANLAFFY(1968)

Assumptions

- Health workers have some knowledge regarding universal precautions
- Not all Health workers follow universal precautions during work.

Projected outcomes

Findings of this study will help the investigator to assess the knowledge and practices related to universal precautions among Health workers in primary health centers under Anekal Taluk This would help the investigator to develop an information booklet regarding universal precautions among health workers, methods of universal precautions to be adopted before, during and after procedures and hazards of not adopting the universal precautions which can make them more aware of the same.

Delimitation:-

The study is limited to Female health workers in all primary health under Anekal Taluk.

Scope of the study:-

Findings of this study will help the investigator to assess the knowledge and practices related to universal precautions among Health workers in primary health centers under Anekal Taluk This would help the investigator to develop an information booklet regarding universal precautions among health workers, methods of universal precautions to be adopted before, during and after procedures and hazards of not adopting the universal precautions which can make them more aware of the same.

REVIEW OF LITERARURE

3. REVIEW OF LITERATURE

Researchers do not conduct a study in intellectual vacuum; their studies are undertaken within the context of an existing knowledge base.

The review of literature provides a basis for future investigation, an insight in to the problem, intensifies need for data collection and relates the findings of the study to another, with the hope to establish a comprehensive body of scientific knowledge. A thorough literature review focusing on prior researches related to the topic of the study gives a strong foundation bases knowledge.[17] this chapter reviews some of the literature which is relevant and useful to the present study in identifying and focusing attention on the problem and in analysis and interpretation of the data.

For better understanding of the present study, the review of literature is organized in to 3groups.

1. Literature reviews related to universal precautions
2. Literature reviews related to knowledge and practice of universal precautions
3. Literature reviews related to occupational exposures or hazards.

Literature reviews related to universal precautions.

A study was conducted for monitoring adherence to standard precautions. Health care workers (HCWs) do not consistently follow Standard precautions (SP).This is a serious problem because inadequate compliance is associated with increased blood exposure thus predisposing HCWs to blood borne pathogen transmission. The study concluded that institutional safety climate, leadership support and frequency of education play an important role in HCWs training adequacy to monitor co workers adherence to SP.Occupational groups should be considered independently when

strategies are developed to increase compliance. Interventions based on modifiable factors identified by this study may reduce blood borne pathogen exposure among HCWs [18]

A study was conducted for a work system analysis of compliance with universal precautions among health care workers. Universal precautions are work practices designed to protect health care workers from occupational exposure to HIV and other blood borne pathogens. However despite aggressive dissemination efforts by CDC and regulatory action by OSHA, compliance remains less than satisfactory.[19]

A study was conducted in rural north India to know about the compliance with universal precautions among health care workers. Universal precautions have been widely promoted in high income countries to protect HCWs from occupational exposure to blood and consequent risk of infection with blood borne pathogens. They concluded that interventions to improve universal precautions compliance among HCWs in rural north India need to address not only their knowledge and understanding but also the safety climate created by the organizations that employ them.[20]

A study was carried out to assess percutaneous injury, blood exposure and adherence to standard precautions among hospital based health care providers. The study was conducted to examine factors associated with blood exposure and percutaneous injury among health care workers. Adherence to standard precautions was found to be suboptimal. Underreporting was found to be common. Percutaneous injury was related to frequency of sharps handling and inversely related to routine standard precaution compliance. New strategies for preventing exposures, training and monitoring adherence are needed.[21]

A study was conducted to know about the compliance with universal precautions and needle handling and disposal practices among emergency department staffs at two community hospitals and the results concluded that data indicate less than optimal levels of compliance and show that personnel are fully aware of their own non compliance [22]

Literature reviews related to knowledge and practice of universal precautions.

A study was conducted for review of knowledge, compliance and strategies to improve practice. A literature search of studies listed in the Cumulative Index of Nursing and Allied Health Literature (CINHAL) Data base was conducted from 1990 – 2003,using a number of key words. Review, analysis and synthesis of selected studies were performed. The findings of this review showed that universal precautions are considered an effective means of protecting patients and staff and controlling infection. The consensus from this body of evidence is that, globally, knowledge of universal precaution is inadequate and compliance is low. Studies from various countries show that specific intervention strategies, such as education, are influential in improving knowledge and practice. This review concludes that it is imperative that future research examines how the attitude and beliefs of health care workers can be influenced and changed to reinforce adherence to universal precautions within hospital setting.[23]

A study was conducted to assess the knowledge and practice on occupational blood exposure in care giving facilities, in morocco. The study aimed at evaluating practices and knowledge of infectious hazards, to determine prevalence of viral infections related to occupational blood exposure among health care workers, and to propose a preventive policy. Infectious hazards in health care facilities are not

taken in to account. The recent creation of occupational health services in hospital facilities should contribute to improve working conditions, make hepatitis B vaccination mandatory and lead to more information and education on hazards related to occupational blood exposure for health care personnel. [24]

A cross-sectional study of health workers was conducted in teaching hospitals in Nigeria to determine knowledge and practice of universal precautions among medical lab workers.300 randomly selected subjects were send structured questionnaires through mails. According to the study the only 20.8 % of the subjects had ever heard of the term universal precautions. It was interesting to note that 81.2% of the subjects wore a single pair of gloves throughout their work. None of them ever reported injuries during work as they felt that no positive actions would be taken by the authorities[25]

In a study of universal precautions in four major hospitals, in Netherlands, the investigator found that the percentage of recapped needles were greater than 25 % and exceeded 50% in one instance. The health care workers surveyed indicated that they did not perceive needle recapping as risky behavior even though they had in-service education on Universal precautions[26].

A study which explored the situations associated with risk taking behavior in US regarding HIV transmission among nurses concluded that the nurses did not adhere to universal precautions because they were in a hurry(but not in an emergency),or they had difficulty in doing procedures while wearing gloves. Some even responded that they were too careless to follow the precautions.[27]

In university of Miami Jackson memorial medical center, the surgical residents were found to adhere to universal precautions only 16% of the time during trauma resuscitation.[27]

Another descriptive study conducted among the registered nurses in the US regarding adherence to universal precautions indicated that there was no relationship between knowledge and practice of universal precautions. In the particular study, the nurse manager interviewed stated that she did not believe universal precautions to be realistic in her area of work. The nurse managers group had the lowest score. Some of the reasons stated for non compliance was unavailability of supplies, some respondents stated that they washed gloves between patients which was against the guidelines of centre for disease control (CDC).[27]

An investigator studied the effect of an educational program on compliance with glove use among nurses in a pediatric emergency department. Without the knowledge of the participants they were observed for routine use of gloves during vascular access procedures before and after the educational program. The study found that educational programs can result in a significant increase in glove use by the nurses.[28]

A study was conducted among 306 perinatal nurses in Arizona for assessing the level of protective barriers used. The study found out that the nurses surveyed did not use sufficient protective barriers. A low frequency of barriers use and high frequency of exposures were reported. As the barrier use increased frequency of exposures decreased to some extent.[28]

A study conducted among nurses in the US with a wide range of occupational exposure indicated that all the respondents had a significantly high-level of knowledge regarding viable routes of HIV transmission. However majority of them reported that they never used eye wears or gowns. Nearly all the respondents reported using puncture resistant containers for sharps.[29]

A study of national samples of 2,440 hospital workers who engaged in direct patient activities, including nurses, aides, phlebotomists, physicians and housekeeping staffs. Only 43%of HCWs wore gloves "always "to draw blood. Most of them changed gloves" always "between patients. Only 61%reported that they "always" washed their hands after taking off gloves. Half of the HCWs reported percutaneous exposure in the past year. They also reported not using gowns masks or protective in situations where blood or other body fluids could splash or spray. Most HCWs did not receive occupational exposure to blood borne pathogens[30].

A descriptive study conducted in a tertiary hospital at Bangalore assessed the knowledge and practice of universal precautions among nursing professionals. Random samples of 60 nurses were selected and semi structured questionnaires were administered to them. The average score of knowledge was 65%.The average scores of respondents appropriately practicing universal precautions during different procedures ranged between 93% and 33%.there was no any significant relation between knowledge and practice in this study[31]

Literature Reviews related to occupational exposures or hazards.

A study was carried out to know about the surveillance of occupational blood and body fluids exposure among French health workers. It was conducted to estimate the incidence rate of reported occupational blood and body fluid exposure among French health care workers. A total of 375 medical centers reported 13,042 blood and body fluids exposure; of theses, 72 % were needle stick injuries. These findings suggest that National surveillance networks for blood and body fluid exposures help to better document their characteristics and risk factors and can enhance prevention at participating medical centres.[32]

A study was conducted to find the occupational exposure to needle stick injuries and hepatitis B vaccination among health workers in Egypt. The health worker is at substantial risk of acquiring blood borne pathogen infections to blood or infectious body fluids. Optimal work practices regarding management of sharps can minimize risks. The study concluded that high rates of needle stick injuries and low vaccination coverage contribute highly to rates of viral infections among health workers. Training of health care workers on safe handling and collection of needles and sharps and hepatitis B vaccination of all health care workers is requires to reduce transmission.[33]

A study was conducted to know the occupational exposure to blood and body fluids among health workers in a general hospital in China. The study concluded that the respondents demonstrated lack of knowledge regarding transmission of blood borne diseases and universal precautions and the risk for potential exposure to blood borne fluid exposure appears to be high and all episodes are not reported. It is urgent to establish a guideline for prevention and control of occupational exposure to blood borne pathogens among health care workers.[34]

The fact that occupational transmission of blood and body fluids occurs in settings with adequate infection control policies cannot be disputed. Compliance with recommended infection control behaviors do not prevail in spite of adequate knowledge. Why do nurses take these risks?

METHODOLOGY

4. METHODOLOGY.

The research methodology includes the research approach, research design ,setting ,population ,sample and sampling technique, development and description of the tool, data collection procedure ,pilot study and plan for data analysis .It has crucial implications for validity and credibility of the study findings .This chapter gives a brief description of the methodology adopted for the study to assess the knowledge and practice of universal precautions among health workers in primary health centers under Anekal Taluk ,Bangalore.

Research approach:-

A research approach suggests possible conclusions to be drawn from the data. In view of the problem selected for the study and objectives to be accomplished, a survey approach was considered as an appropriate research approach for this study.

Research design:-

The research design selected for this study was descriptive research design/

The schematic representation of the design used in the study is given in figure 2.

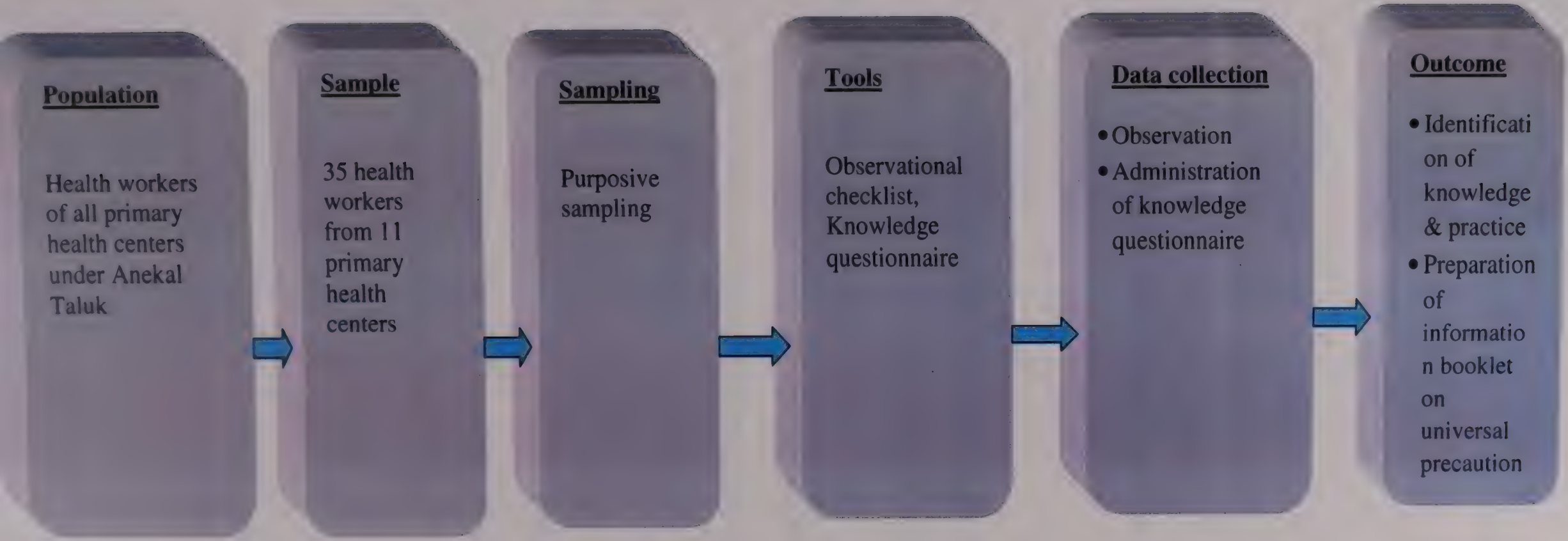

FIGURE 2:-Schematic representation of research design

Variables

A variable is a characteristic or quality that varies from one person or Object to another.

Two types of variables are identified in this study:

1. Study variables
2. Baseline variables

Study variables:-

Knowledge and practice of universal precautions among health workers in primary health centers

Baseline variables:-

The baseline variables in this study are age of the health workers, years of experience, income and previous trainings attended by the health workers.

Setting of the study:-

The study was conducted in all the primary health centers under Anekal Taluk. There are 13 primary health centers under Anekal Taluk. The main study was conducted in 11 of these primary health centers.

Population

The population for this study includes all the health workers (designated as female junior health assistants, female senior health assistants /Lady Health visitors) working in primary health centers under Anekal Taluk

Sample

Sample consists of a subset of population selected to participate in a research study

Sample size

In this study the sample consisted of 35 female health workers working in all the primary health centers under Anekal Taluk

Sampling Technique.

Non probability purposive sampling technique guided by inclusion criteria was used for sample selection

Sampling criteria

Inclusion criteria for sampling

1) Female health workers who have completed 1 year training course of auxiliary nurse midwife

2) Female Health workers who are available during the period of study.

Exclusion criteria for sampling

1) Female health workers who are not willing to participate in the study

Instrument used.

A structured knowledge questionnaire and an observation checklist was developed by the investigator as per the objectives of the study.

Method of developing instrument

The following steps were carried out in developing the instrument:-

- Review of related literature
- Discussion with health personnel
- Discussion with guide and experts.

In the process of development of the tool, the investigator also reviewed instruments Developed and tested by other researchers for assessing knowledge and practice of Universal precautions among different health personals

Description of the instrument.

Section I: Demographic Performa to find out baseline variables of health workers.

This included 6 items i.e. age in years of the health worker, years of experience, Education, income, designation and previous trainings obtained on universal precautions

Section II: Knowledge questionnaire to assess the knowledge of universal Precautions.

This consisted of 35 items. The items were divided in to questions under universal precautions, hand washing, personal protective equipments and waste disposal. Each right answer was given a score of 1 and wrong answers 0.

Total score- 35

≤ 50% (≤ 17) –Inadequate knowledge

51% - 74% (18-26) –Moderately adequate knowledge

≥ 75% (≥27) –Adequate knowledge

Section III (A) Observation checklist to assess the practice of universal precautions among health workers while administering injections.

This consisted of 13 items which were observed twice. Items under this checklist were classified under the headings hand hygiene, personal protective equipments and waste disposal. Every act which was done was scored 1 mark and every act which was not done was given 0 marks

Total score-26

≤ 50%(≤13) – Poor practice

51% - 74%(14-19) – Average practice

≥ 75% - Good practice

Section III (B) Checklist to assess availability of resources to practice universal precautions.

This checklist consisted of checking availability of appropriate bins for waste disposal, adequate PPE for use, adequate facilities for hand washing, disinfection and sterilization procedures and other facilities for health workers.

Total score - 16

75% and above:-adequate resources available for practice

Less than 75%: inadequate resources.

Content validity:-

The content validity of the tool was established by requesting 14 experts to validate the tool and give their valuable suggestioons.9 of the experts responded (6 Nursing experts and 3 Doctors)

Reliability:-

Reliability of the tool was established by using split half method and calculated using established using inter-rater reliability method.

The reliability of knowledge questionnaire, r=0.88, r' = 0.96

The reliability of observation check list,r = 0.84,r'=0.94

Both tools were found reliable.

Pilot study details

The purpose of pilot study was

- To check the feasibility of the study
- To refine the instrument
- To determine method of statistical analysis

After obtaining formal permission from the district health officer (Anekal), the pilot study was conducted among health workers who met the inclusion criteria in Sarjapura PHC and Dommasandra PHC under Anekal Taluk on 26.05.2010.The

practices of universal precautions adopted by health workers while administering injections were observed following which the knowledge questionnaire was administered to the health workers. The health workers were made to answer the questionnaire under supervision .The collected data was tabulated and analyzed with descriptive statistics. The study was found to be feasible and proceed with the final study. The result of the pilot study was presented and necessary corrections were made as suggested by the guides and experts

Data collection method

Data collection was done from 03.06.2010 to 29.07.2010.A formal permission was Obtained from the district health officer (rural) to conduct the study in all the primary health centers under Anekal Taluk. The investigator introduced her to the medical officers and the participant of the respective PHCs .A verbal consent was obtained. Two injection procedures performed by each health worker was observed by the investigator (non participatory observation).The structured knowledge questionnaire was administered to all the health workers at a time after two observations were completed. On an average 4-6 health workers were covered each day of investigation. The observations of each health workers were completed by at least 20 minutes. Time taken by the health workers to answer the questionnaire was around 20-25 minutes.

Data Analysis Plan

The following steps were undertaken for data analysis:

- Organized the data in a master sheet.
- Calculated the frequencies and percentages to show the distribution of health Workers according to baseline variables.

- Calculated the mean, percentage and standard deviation of knowledge and Practice of health workers
- Calculated the correlation between knowledge and practice using Pearson Correlation method
- Calculated chi square as test of significance to determine association of Knowledge and practice with selected baseline variables

RESULTS

5. RESULTS

This chapter deals with analysis and interpretation of data collected to assess the knowledge and practice of universal precautions from 35 health workers in primary health centers under Anekal Taluk .The purpose of the analysis was to reduce the data to an interpretable and intelligible form, so that the research problem could be summarized and tested .The analysis and interpretation of the data is based on the objectives of the study.

Statistical Method

The following steps were undertaken:

- Organized the data in a master sheet.
- Calculated the frequencies and percentages to show the distribution of subjects according to baseline variables.
- Calculated the mean, percentage and standard deviation of knowledge and practice of health workers
- Calculated the correlation between knowledge and practice using Pearson Correlation method
- Calculated chi square as test of significance to determine association of Knowledge and practice with selected baseline variables The objectives of the study and statistics applied for each objective are as follows

Objectives	Statistical analysis
To assess knowledge of universal precautions among health workers	Frequency, Percentage, mean, range, standard deviation
To assess practice of universal precautions among health workers	Frequency, Percentage, mean, range, standard deviation
To find correlation between knowledge and practice of universal precautions	Range,mean,mean percentage, standard deviation,Pearsons correlation
To determine association between knowledge and baseline variables	Frequency, Chi Square
To determine association between practice and baseline variables	Frequency, Man Whitney U test, Chi Square

Organisation and presentation of the data: - .

Section – 1:- Description of base line variables of the health workers

Section – 2 (a):- Findings related to knowledge of health workers regarding universal precautions.

(b):- Findings related to practice of universal precautions among health workers while administering injections.

(C):-Findings related to availability of resources for health workers to practice universal precautions.

Section – 3 (a) Association of knowledge regarding universal precaution with selected baseline variables of the health workers

(b) Association of practice of universal precautions while administering injections with selected baseline variables of health workers.

(c) Association of knowledge and practice of universal precautions.

Section-1

Description of baseline variables of health workers.

Figure 3:-Distribution of health workers accords to their age.

Figure 3 depicts that most (31.4%) of the health workers were between the age group of 46-55 years

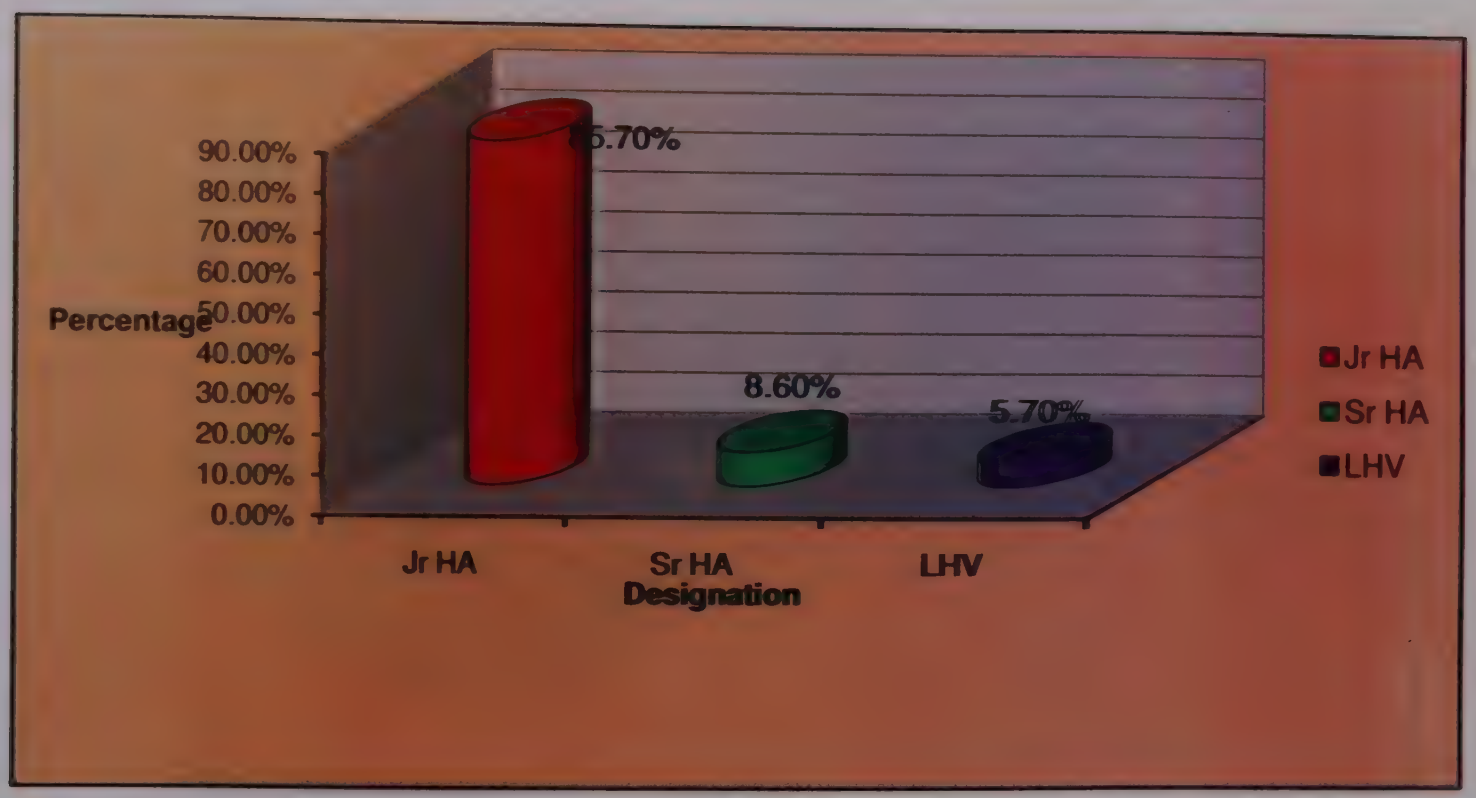

Figure 4:-Distribution of health workers according to designation.

Figure 4 depicts that majority (85%) of the surveyed health workers were designated as junior health assistants.

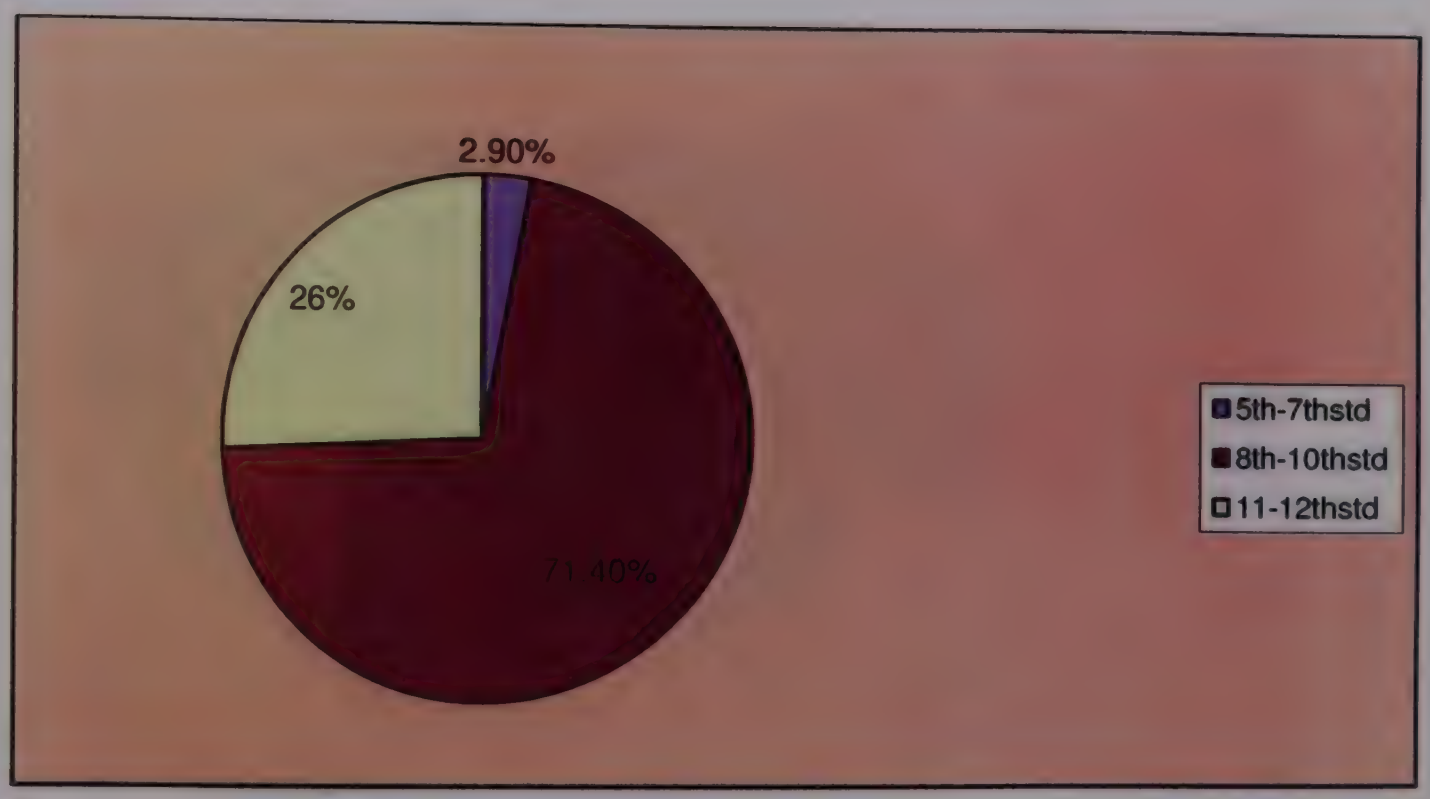

Figure 5 Distribution of health workers according to basic education.

Figure 5 shows that 71% of the health workers had high school education.26% of them had a basic education of higher secondary.

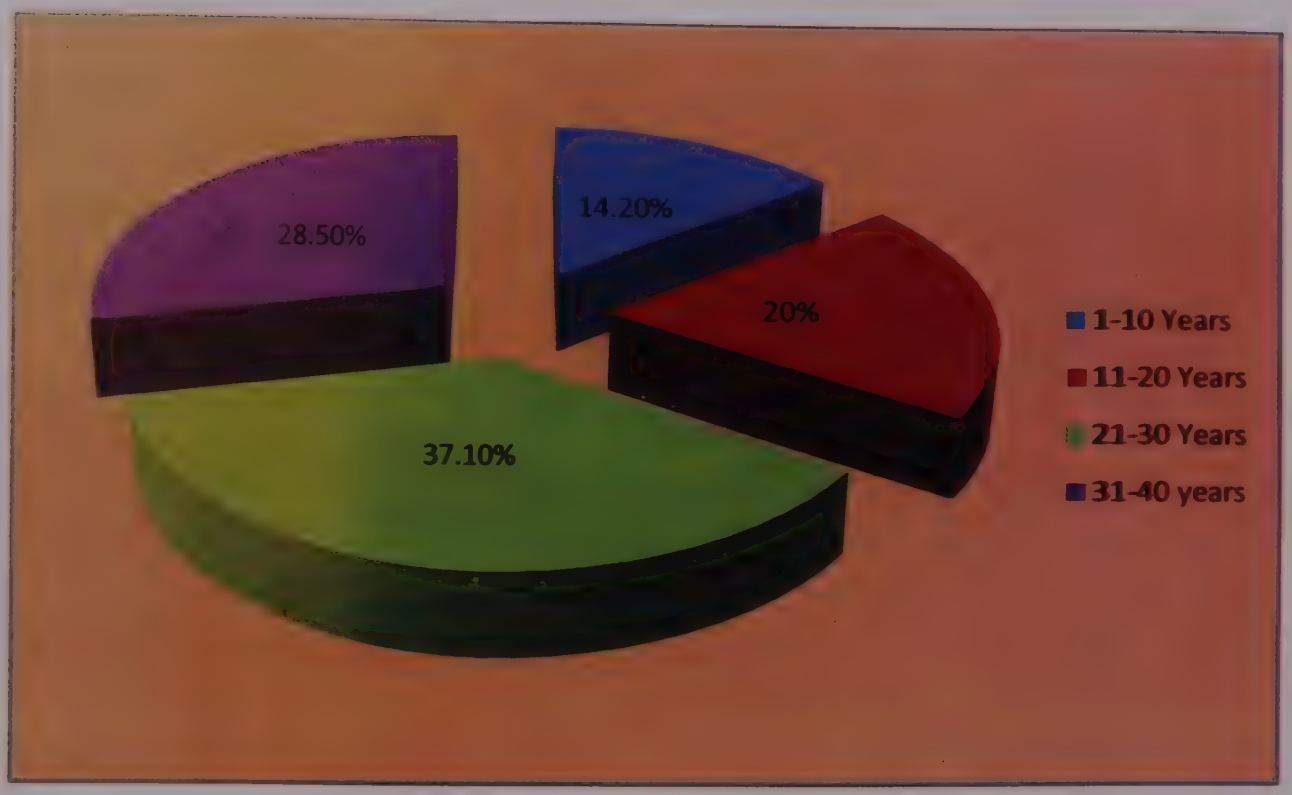

Figure 6:-Distribution of health workers according to their years of experience.

From figure 6 it is evident that 37.1% of the health workers had 21-30 years of experience

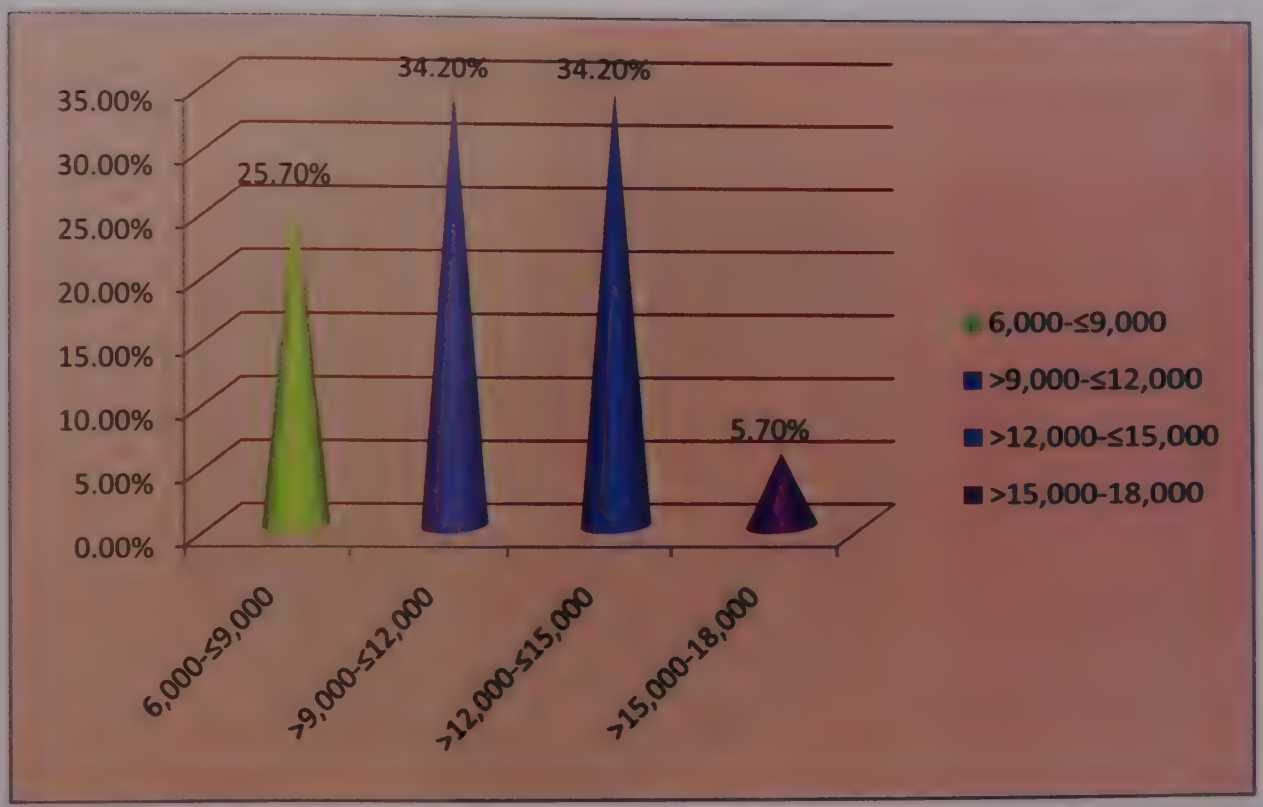

Figure 7:-Distribution of health workers according to basic monthly income.

Figure 7 shows that 34.2% of the health workers had a basic monthly income per month between Rs 9,000-≤12,000 or Rs 12,000-≤15,000

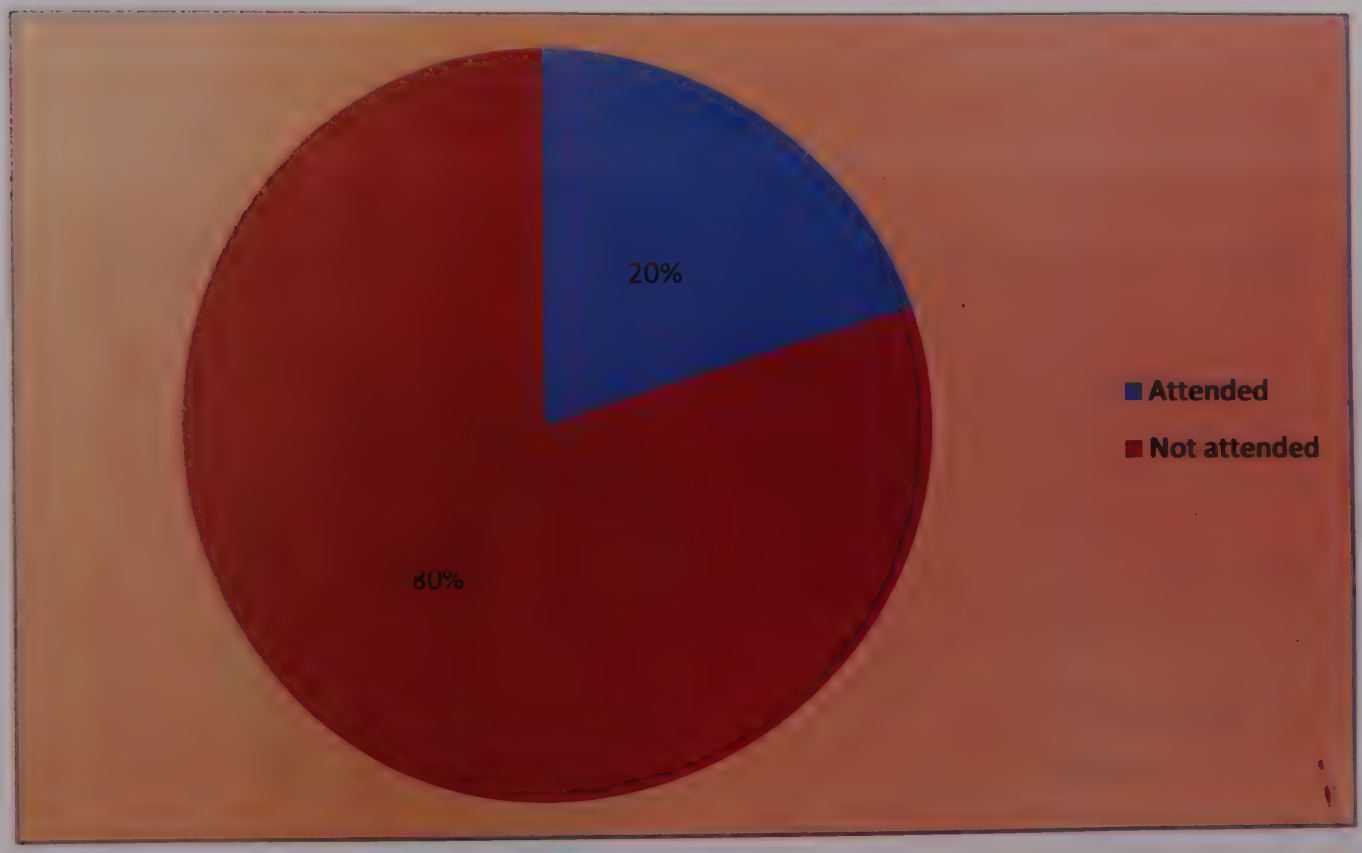

FIGURE 8:-Percentage distribution of health workers according to previous training attended.

From figure 8 it is evident that 80 % of the health workers have not attended any training previously exclusively on universal precautions.

Section 2

Findings related to knowledge of health workers regarding universal precautions.

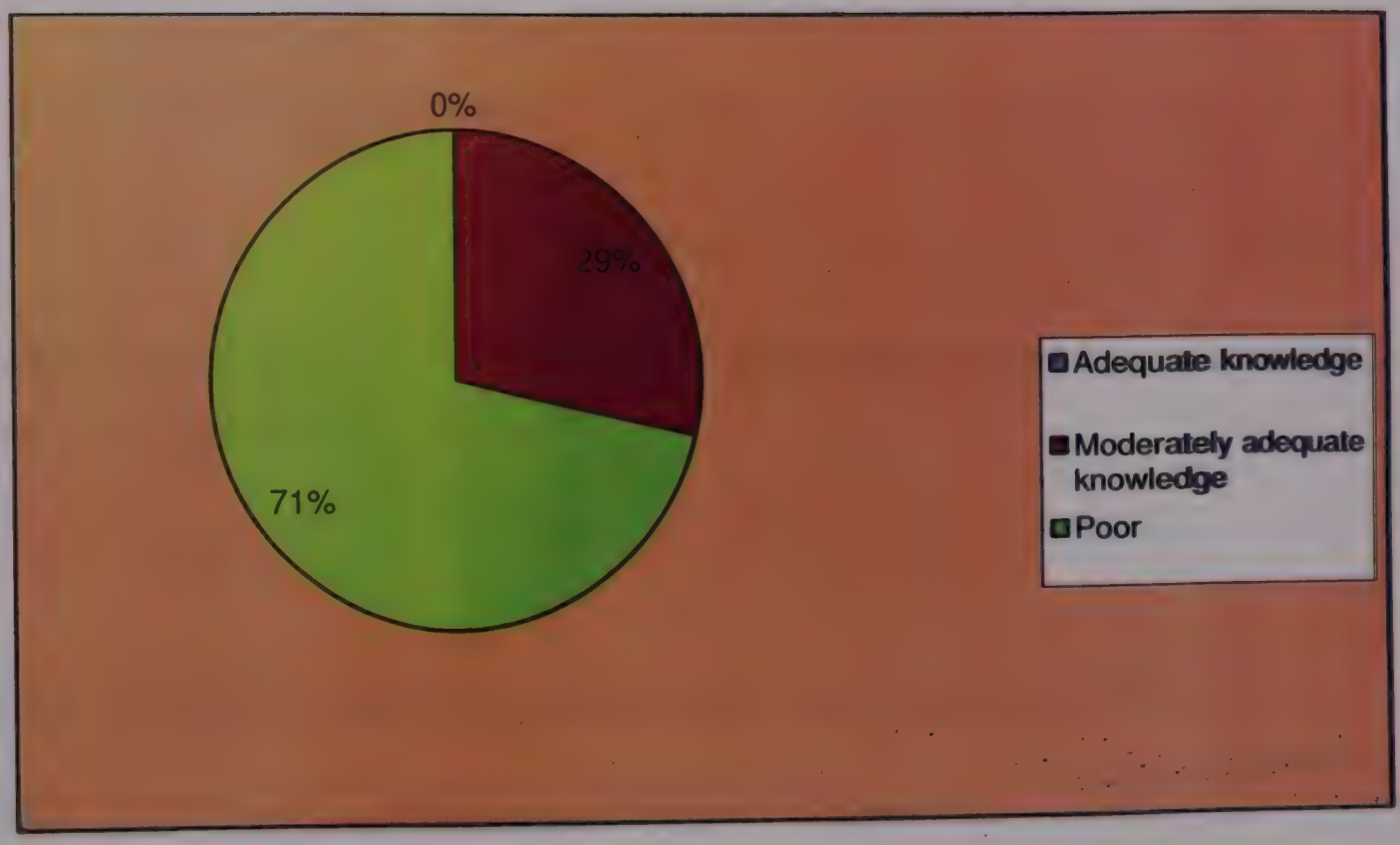

Figure 9:-Percentage distribution of health workers according to their knowledge scores.

From figure 9 it is evident that 71% of the health workers had poor knowledge about universal precautions. None of them had adequate knowledge.

Table 1:-Frequency, mean and standard deviation of knowledge score of health Workers.

(N=35)

Sl no	Knowledge score	Fq(n)	%	Mean score	Standard deviation
1	Adequate knowledge (≥75%)	0	0	0	0
2	Moderately adequate knowledge (51% - 74%)	10	28.6	19	1.85
3	Poor knowledge (≤ 50%)	25	71.4	13.3	0.5

Table 1 depicts that the mean of moderately adequate knowledge score was 19 and that of poor knowledge was 13.3.

Table 2:- Specific content area wise knowledge score of health workers.

(N=35)

Sl no	Content	Max.score	Range score	Mean score	Standard deviation
1	Universal precautions	12	1-8	4.45	1.8
2	Personal protective equipments	13	2-11	6.4	2.55
3	Waste disposal	5	0-3	1.77	0.94
4	Hand washing	5	0-5	2.4	1.7

The above table depicts that the health workers had least knowledge in the area of waste disposal. Mean score in the area was 1.77.

Table 3:-Distribution of health workers based on their practice score.

(N=35)

Sly no	Practice score	Frequency(n)	Percentage	Mean score	Standard deviation
1	Good Practice (≥ 75%)	0	0	0	0
2	Average Practice (51%- 74%)	0	0	0	0
3	Poor Practice (≤50%)	35	100%	2.14	2.63

The findings revealed none of the health workers had good practice of universal precautions.

Table 4:-Specific content area wise practice score of the health workers.

(N=35)

Sly no	Content	Max.score	Range score	Mean score	Standard deviation
1	Hand hygiene	12	0-6	1.2	1.42
2	Personal protective equipments	4	0-2	0.2	0.58
3	Waste disposal	10	0-8	2.5	2.82

The above table depicts that the health workers had least practiced the use of personal Protective equipments .Mean score was 0.2.

Table 5:-Distribution of health workers based on resources available for practice.

(N=35)

Sl no	Availability of resources	Fq	%	Mean score	Mean%	Standard deviation
1	Adequate resources (75% and above)	0	0	0	0	0
2	Inadequate resources (≤ 74%)	35	100%	7.42	49%	2.82

The findings reveal that none of the health workers had adequate supply of resources for practicing universal precautions.

Table 6:-Specific content area wise score of available resources.

(N=35)

Sly no	Content	Max.score	Range score	Mean score	Standard deviation
1	Waste disposal	4	0-4	1.77	1.03
2	PPE	4	0-2	1.31	0.68
3	Hand hygiene	4	1-4	1.57	2.34
4	Sterilizing procedures	2	0-1	1	0
5	Facilities	2	1	0.85	0.34

Table 6 depicts that the mean score of resources available for waste disposal was 1.77.The mean score for availability of PPE was 1.31 and that of hand hygiene was 1, 57.Mean score for availability of sterilizing procedures was 1 and that of facilities available for health Workers was 0.85

Section 3

Table 7:- Correlation between knowledge and practice.

N=35

Variables	Score	Range	Mean	Mean %	SD	
Knowledge	35	6-23	15	40%	2.79	r=0.246 P=0.154
Practice	26	0-10	5.1	16%	2.64	

Using persons product moment correlation, the p value is 0.154(>0.05) which shows that there is no any significant correlation between knowledge of health workers and their practice of universal precautions.

Table 8:- Association of knowledge level with selected baseline variables.

N=35

Sly no	Baseline variables	Inadequate knowledge	Moderate knowledge	Adequate knowledge	Test of significance	P value
1	**AGE:**					
	≤50Years	9	8	=	X^2=5.53	0.01*
	>50 Years	16	2	=		
2	**Years of experience:**					
	≤20 years	6	6	=	X^2=4.10	0.04*
	>20 years	19	4	=		
3	**Education**					
	Middle school(5th std-7th)	1	-		X^2=0.504)	0.77 NS
	High school (8th-10th)	18	7			
		6	3			
	Higher secondary(11th-12th)					
4	**Designation**					
	Junior health assista	20	10			
	Senior health assista	3	0		X^2=2.33	0.31 NS
	Lady health visitor	2	0			
5	**Income(per month)**					
	≤12,000	11	8			
	>12,000	14	2		X^2=3.73	0.05*
6.	**Previous training attended**					
	Yes	3	4		X^2=3.5	0.06
	No	22	6			

NS-Not significant;* Significant at $p<0.05$

From the table 8 it is evident that there was a significant association between the knowledge levels and their age, years of experience and income.

Table 9:-Association between practice and baseline variables

N=35

Sly no	Base line variable	Good practice	Average practice	Poor practice	Test of significance	P value
1	**Age:-**					
	≤ 50 years			17	Z= -789	0.43
	> 50 years			18		
2	**Years of experience:-**					
	≤ 20 years					
	> 20 years			12	Z= -1.34	0.17
				23		
3	**Education:-**					
	Middle school(5th-7th std)			1		
	High school(8th-10th std)			25	X^2=2.07	0.35
	Higher secondary(11-12th std)			9		
4	**Designation:-**					
	Junior health assistant			30	X^2=1.70	0.42
	Senior health assistant			3		
	Lady health visitor			2		
5	**Income:-**			19	Z= -0.017	0.98
	≤ 12,000			16		
	> 12,000					
6	**Training attended:-**				Z=3.50	.061
	Yes			7		
	No			28		

Association of practice with baseline variable was done using the mean score of each category of baseline variables since all the samples were in the poor category. There was no significant association between mean practice scores and baseline variables.

DISCUSSION

6. DISCUSSION.

Universal precautions include the routine use of appropriate barrier precautions and techniques to borne pathogens. The principle purpose of universal precautions is to prevent transmission of infection from patient to health care providers.

This chapter discusses the findings of the present study and compares the findings with related other studies. The chapter is discussed under the following headings.

1) Description of base line variables of the health workers
2) Findings related to knowledge of universal precautions among health workers
3) Findings related to practice of universal precautions among health workers
4) Findings related to availability of resources to practice universal precautions
5) Findings related to association between knowledge and practice of Universal precautions
6) Findings related to association between knowledge and baseline variables
7) Findings related to practice and baseline variables.

Description of base line variables of the health workers.

- A total of 35 health workers were surveyed .Among them,51.4% of them Were above the age of 50 years.48.6% were below 50 years.
- Majority(85.7%) of the health workers surveyed were designated as "Junior health assistants"
- With regard to their basic education, 71.4% of them had high school education.
- 65.7% of them had more than 20 years of experience while 34.3% had Less than 20 years of experience.
- The monthly basic income of 54.3% was less than Rs 12,000 per month.

- Out of the entire sample, only 20% of them had received training on Universal precautions.

Findings related to knowledge of universal precautions among health workers.

Out of the total samples of 35 health workers, none of them had adequate knowledge about universal precautions. Majority (71.4%) of them had inadequate knowledge about universal precautions.

A similar study conducted among Nepalese nursing students to assess their knowledge on universal precautions concluded that the samples had a large knowledge gap on universal precautions regardless of their level of education. Over all universal precaution knowledge score was poor among all the nursing students.[35]

Findings related to practice of universal precautions among health workers.

The present study revealed that the overall practice of universal precautions among health workers were poor.97% of them had poor hand washing practices.80% of them had poor waste disposal practices .All of them had poor practice in terms of usage of personal protective equipments.

A study conducted to assess the occupational blood exposure among home nurses and home care workers reported that staffs that performed activities such as handling sharps were at increased risk of injuries due to poor compliance to universal precautions.[36]

In the present study, it was found that the practice of using personal protective devices (glove) was poor. (Mean score=0.2).

A similar study conducted to ascertain the adequacy of universal precautions among health care workers in a large tertiary hospital reported that the practice of usage of gloves was inadequate (25%) among nurses.

An observational study was conducted to assess the prevalence of needle stick injuries among health care workers in a tertiary hospital in Delhi. The study reported that 84% of the NSI occurred when the health care workers had not been wearing gloves. The compliance of health care workers with universal precautions was reported to be poor.[37]

The present study revealed that 80% of the health workers did not have adequate practice of waste disposal. Only 11.4% of them had adequate waste disposal practice. This contradicts a study conducted in a tertiary health care institution at Bijapur.This study was conducted to assess the knowledge, attitude and practice of waste management among health care workers. The study revealed that the awareness and proper practice of biomedical wastes were satisfactory.[38]

A study was conducted in a hospital in Pune to assess the compliance of hospital staff to universal pracautions.85% of the nurses did not follow the practice of using gloves while caring for a patient, taking blood or cleaning blood spills.72% did not know that needles should not be recapped .66% of them had an overall inadequate knowledge of universal precautions.[39]

An excerpt from the CDC recommendations to prevent occupational exposure to blood states that all health care workers should adhere to universal precautions including appropriate use of hand washing, personal protective equipments and care in use of sharps and disposal of wastes. This was not observed in the practices of health workers in the present study.[40]

What can be inferred about adherence to universal precautions is that some nurses are risk takers in their practice. The investigator felt that health care workers feel immune to occupation diseases as they believe it is uncommon in their work places. This may also be attributable to their adverse work conditions.

Findings related to availability of resources to practice universal precautions.

The present study revealed that out of all the primary health centers surveyed, none of the PHCs under Anekal Taluk had adequate resources available for practice of universal precautions.74.31% of the centers did not have adequate waste disposal facilities. None of the PHCs had adequate supply of personnel protective equipments foe the health workers.63% of the PHCs had inadequate hand hygiene facilities.51% had inadequate disinfection and sterilization facilities and 94% of the PHCs had inadequate training and supervision for the health workers.

A study conducted to assess the knowledge and compliance risk of infection among primary health workers in Nepal, reported that poor knowledge and irregular supply of material, equipment and instrument induce lack of compliance of using infection control measure. The study concluded that protective equipment is to be provided while monitoring and disciplinary measure for poor compliances are necessary to improve infection control in primary health care units among health workers.[41]

An observational study to assess the use of universal precautions in Chilean community clinics reported that lack of materials contributed in some instances of failure to use universal precautions. However contradicting the present study, this study revealed that essential materials were usually available for the health workers to practice universal precautions safely.[42]

Findings related to correlation between knowledge and practice of universal precautions

There was no correlation between knowledge of health workers and their practice of universal precautions among the health workers. ($r=0.246$, $p>0.05$)

A study was conducted to assess the knowledge of nurses and their compliance with universal precautions an acute care hospital in Hong Kong. The study reported that there were no significant relationships between the respondent's knowledge of and compliance with universal precautions.[43]

Findings related to association between knowledge and baseline variables

The present study showed that there is an association between knowledge of health workers and their age(x^2=5.53; p=<0.05) years of experience(x^2=4.10, p=<.05) and income(x^2=3.73; p=<.05)

There was no association between knowledge of health workers and their basic education (x^2=.504; p=>.05), designation(x^2=2.33; p=>.05) and training attended(x^2=>.05)

A study conducted in an acute care hospital to assess the knowledge and compliance of nurses with universal precautions showed that there were no significant relationships between the knowledge scores and the samples baseline variables.[44]

Findings related to practice and baseline variables.

In this study no association could be made statistically between practice and base line variables of the health workers since 100 % of them had poor practice of universal precautions. Comparison was made between mean scores of each category which revealed that there were no associations between the baseline variables and practice scores.

Contradicting the findings, the study conducted in an acute care hospital among nurses found that compliance rates were higher in higher age groups. Further the study revealed that more experienced nurses had higher compliance than the less experienced ones. It was also found in the study that those who attended training

programs related to universal precautions had higher levels of compliance when compared to those who did not attend.[45]

The above discussions highlight the knowledge and practice of universal precautions among health workers. The findings of the study helps to improve the working conditions of health workers especially at the peripheral level by imparting knowledge regarding the importance of adopting universal precautions and encouraging appropriate use of universal precautions at work.

SUMMARY

7. SUMMARY

The present study focused to assess the knowledge and practice of universal precautions among health workers in primary health centers under Anekal Taluk, Bangalore .All female health workers designated as junior health assistants, senior health assistants or lady health visitors who worked in PHCs under Anekal Taluk were the samples for the study.

The objectives of the study were:

1. To assess the knowledge of universal precautions among health workers in primary health centers under Anekal Taluk

2. To assess the practice of universal precautions among Health workers in primary health centers under Anekal Taluk

3. To find correlation between knowledge of Health workers and their practices of universal precautions.

4. To determine association between knowledge of universal precautions among health workers and selected base line variables (age, years of experience, designation, income, education, previous training attended)

5. To determine association between practice of universal precautions among health workers and selected base line variables (age, and years of experience)

Assumptions made for the study are:

- Health workers have some knowledge regarding universal precautions
- Not all Health workers follow universal precautions during work.

The conceptual framework adopted for the study was based on Modified General system model. Review of literature was done on studies related to universal precautions, Knowledge and practice of universal precautions and occupational exposures or hazards. This helped the investigator to adopt most appropriate

methodology for the study, plan for data analysis and interpretation in the most effective manner. In view of the problem and the objectives of the study, a survey approach was used for the study. The study variables in the study were knowledge and practice of universal precautions among health workers. The base line variables were age, years of experience, designation, income, education and previous training attended by the health workers .The setting of the study were all primary health centers under Anekal Taluk. The population studied was all lady health assistants who were working in the primary health centers under Anekal Taluk. Purposive sampling was used to select the samples.

Data collection instrument consisted of an observation checklist used by the investigator to assess the practice of universal precautions, a Performa to elicit baseline variables and a structured knowledge questionnaire to assess the knowledge of the health workers. Content validity of the tool was established by sending to experts. The reliability of the observation checklist was established using inter-rater reliability and the reliability of knowledge questionnaire was established using split half method. Pilot study was conducted in two of the primary health centers under Anekal Taluk (Sarjapura PHC and Dommasandra PHC) among 7 health workers who met the inclusion criteria. The study was found to be feasible. For the final study, data was collected from 35 health workers who were working in 11 primary health centers under Anekal Taluk. The data obtained was analyzed in terms of the objectives using descriptive and inferential statistics.

The findings of the study showed that 71% of the health workers had inadequate knowledge on universal precautions. The health workers had least knowledge about waste disposal (mean score-1.77) all the health workers surveyed had poor practice of universal precaution. The health workers had least practiced the use of personal

protective equipments. None of the health workers had adequate resources at their centers for practicing universal precautions. No correlation was found between knowledge and practice of universal precautions among health workers .There was a significant association between age, years of experience and income of the health workers and their knowledge levels. There was no significant association between practice and baseline variables.

From the above findings the investigator concluded that majority of the health workers had poor knowledge and poor practice of universal precautions. It was also found that the recently trained and appointed health workers had significantly better knowledge than the health workers who were trained and appointed earlier. The study also highlights the fact that none of the Primary health centers had adequate resources for safe working practices .This calls the authorities for a need to improve the working conditions in the health care delivery system from the peripheral levels .The investigator also observed that many of the posts were vacant as a result of which the findings of this study cannot be generalized.

The process of the study was an enlightening experience for the investigator as it gave an opportunity to come across the functioning of the health care delivery system at the grass root levels .It helped to improve the knowledge on the subject matter and also brought better insight about the working conditions at the peripheral levels. The constant encouragement, timely correction and direction from the guide, co-operation from the participants and support from the management contributed to the fruitful completion of this study.

CONCLUSION

8. CONCLUSION

The present study focused to assess the knowledge and practice of universal precautions among health workers in primary health centers under Anekal Taluk, Bangalore. The following conclusions were drawn from the study:

- 71% of the health workers had poor knowledge of universal precautions. None of the health workers had adequate knowledge.
- Health workers had least knowledge regarding waste disposal (Mean score-1.77)
- 100% of the health workers had poor practice of universal precautions
- Health workers least practiced the use of personal protective equipments
- None of the health workers had adequate resources at the centers for practicing universal precautions appropriately.
- There was no correlation between the health workers level of knowledge and practice of universal precautions($r=0.246, p=0.154$)
- There was a significant association between the age, years of experience and income of the health workers and their knowledge levels. No other association was found between knowledge and other baseline variables
- The mean scores of each category were used to compare between practice and baseline variables since 100% of the health workers were in the poor category of practice. There was no association between practice and baseline variables.

Implications of the study

The implications of the study are vital to nursing education, nursing practice, nursing administration and nursing research

Nursing education:-

Nursing education is concerned with the objective of preparing all categories of future nurses who will play a major role in preventive and primitive aspects of both self and patients. Regular training programs should be organized at the peripheral level regarding the importance of universal precautions and hazards of not adopting them. This study would be a basis for teaching all categories of nursing professionals specially the ones at the peripheral levels.

Nursing Practice:-

This study has brought to light various risk factors which increase the incidences of occupational exposure to blood and body fluids among health workers. This emphasizes the need for an individualized and specific educational program for the health workers at peripheral level by using the informational booklet developed by the researcher as a tool.

Nursing Administration:-

Nurse administrators can suggest authorities to plan various interventions to improve infection control measures at the peripheral level.

- Distribution of the information booklets.
- Conducting regular training classes
- Providing adequate supervision and resources.

Nurse administrators can have an effective role in bringing about changes by initiating discussions with the authorities and subordinates.

Nurse's administrators can initiate an action plan to validate the information booklet prepared by the researcher and utilize this in improving the quality of care at those peripheral levels.

Nursing research:-

Studies suggest that this area of research has not been studies exhaustively. Various methods can be carried out through research to improve the knowledge and practice of universal precautions among health workers at the peripheral level. Nurses must also be encouraged to do more research at the peripheral levels. This can help in providing quality care, recommend policy changes and promote nursing status and image at the peripheral

Limitations:-

- The study was confined only to the female health assistants in primary Health centers under Anekal Taluk
- Sample size was only 35
- Purposive sampling was used for the study which will not give a true representation of the study population.

Recommendations

1. A similar study can be conducted to compare the knowledge and practices of various categories of health personals at the peripheral levels.

2. A study can be done to assess the attitude of health workers towards universal precautions.

3. A follow up study can be done to assess the effectiveness of the information booklet.

4. A similar study can be done on a larger sample to generalize the findings

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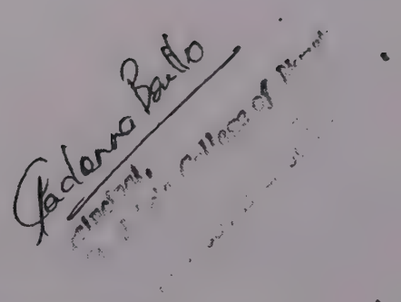
ANNEXURES

Annexure 1
Letter seeking permission to conduct research study.

From
Ms Rubey Peter Cherian,
2nd year MSc nursing student,
St John's college of nursing,
Banglore-560034.

To
The District Health officer,
DHO office, Urban,
Old Madras road,
Banblore-560038.

Forwarded through
The Principal,
College of nursing,
St Johns national academy of health sciences,
Banglore-560034.



Subject:-Letter seeking permission to conduct research study.

Respected Sir/Madam,

As a part of my partial fulfillment of MSc nursing degree at Rajiv Gandhi university of health sciences ,Bangalore I have selected the following topic for my thesis **"A study to assess the knowledge and practices regarding universal precautions among health workers in primary health centers under Anekal taluk with a view to develop an information booklet"**. Pilot study has to be conducted during the period between 20/5/2010 to 27/5/2010.The data collection is from 1/6/2010 to 26/10/2010.I request you to kindly grant me permission to conduct the study in all primary health centers under Anekal taluk and to use the records if necessary for the same purpose. The information collected will be used only for research purpose and confidentiality will be maintained .Kindly do the needful.

Thanking you

Date:-

Yours sincerely,

Ms Rubey Peter Cherian
2nd year Msc nursing student.

Annexure 2
Letter granting permission to conduct research study

ಕರ್ನಾಟಕ ಸರ್ಕಾರ
ಜಿಲ್ಲಾ ಪಂಚಾಯತ್, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ.
ಜಿಲ್ಲಾ ಆರೋಗ್ಯ ಮತ್ತು ಕು.ಕ.ಅಧಿಕಾರಿಗಳ ಕಛೇರಿ, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ, ಸಾಂಕ್ರಾಮಿಕ ರೋಗಗಳ ಆಸ್ಪತ್ರೆ ಆವರಣ, ಹಳೇ ಮದ್ರಾಸ್ ರಸ್ತೆ, ಇಂದಿರಾನಗರ, ಬೆಂಗಳೂರು–38
ದೂರವಾಣಿ ಸಂಖ್ಯೆ : 25566844.

ಸಂ: ಕಛೆಪ್ರಧ್ರಿ/01/2010–11 ದಿನಾಂಕಃ 22.05.2010.

ಗೆ,
ಪ್ರಾಂಶುಪಾಲರು,
ಸೇಂಟ್ ಜಾನ್ಸ್ ನರ್ಸಿಂಗ್ ಕಾಲೇಜು,
ಬೆಂಗಳೂರು– 34.

ಮಾನ್ಯರೆ,

ವಿಷಯಃ ರೂಬಿ ಪೀಟರ್ ಚೇರಿಯನ್ ಇವರಿಗೆ ಎಂ.ಎಸ್.ಸಿ. ವ್ಯಾಸಂಗಕ್ಕಾಗಿ ಅನುಮತಿ ನೀಡುವ ಬಗ್ಗೆ.
ಉಲ್ಲೇಖಃ ರೂಬಿ ಪೀಟರ್ ಚೆರಿಯನ್, ಇವರ ಪತ್ರ ದಿನಾಂಕಃ 21.05.2010.

/&/&/&/

ರೂಬಿ ಪೀಟರ್ ಚೆರಿಯನ್ ಇವರಿಗೆ ಎಂ.ಎಸ್.ಸಿ. ವ್ಯಾಸಂಗಕ್ಕಾಗಿ A study to assess the knowledge and practices regarding universal precautions among health workers in Primary Health Centres under Anekal Taluk with a view to develop an information book let ಈ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆಯ ಆನೇಕಲ್ ತಾಲ್ಲೂಕು ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ವಿದ್ಯಾಭ್ಯಾಸಕ್ಕಾಗಿ ಅನುಮತಿ ನೀಡುವಂತೆ ಉಲ್ಲೇಖಿತ ಪತ್ರದಲ್ಲಿ ಕೋರಿರುವುದು ಸರಿಯಷ್ಟೆ.

ಉಲ್ಲೇಖಿತ ಪತ್ರವನ್ನು ಪರಿಶೀಲಿಸಿ, ರೂಬಿ ಪೀಟರ್ ಚೆರಿಯನ್ ಇವರಿಗೆ ಎಂ.ಎಸ್.ಸಿ. ವ್ಯಾಸಂಗದ ಒತದೃಷ್ಟಿಯಿಂದ ಆನೇಕಲ್ ತಾಲ್ಲೂಕು ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬರುವ ಪ್ರಾಥಮಿಕ ಆರೋಗ್ಯ ಕೇಂದ್ರದ ಗ್ರಾಮ/ಪ್ರದೇಶಗಳಲ್ಲಿ ವ್ಯಾಸಂಗ ಮಾಡಲು ಅನುಮತಿ ನೀಡಿದೆ.

ತಮ್ಮ ನಂಬುಗೆಯ,

(ಡಾ॥ ಎಂ.ಶಿವಪ್ಪ)
ಜಿಲ್ಲಾ ಆರೋಗ್ಯ ಮತ್ತು ಕು.ಕ.ಅಧಿಕಾರಿಗಳು,
ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ, ಬೆಂಗಳೂರು.

ಪ್ರತಿಯನ್ನು ತಾಲ್ಲೂಕು ಆರೋಗ್ಯಾಧಿಕಾರಿಗಳು, ಆನೇಕಲ್ ತಾಲ್ಲೂಕು, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ. ಇವರಿಗೆ ಮಾಹಿತಿಗಾಗಿ.

Annexure 3

LETTER REQUESTING EXPERTS TO COMPUTE THE CONTENT VALIDITY OF THE TOOL

From,

Rubey Peter Cherian

1st year M.Sc. Nursing student

St. John's College of Nursing

Bangalore -34.

To,

Forwarded through,

The Principal

St. John's College of Nursing

Bangalore -34.

Subject: **Expert opinion on validity of the tool**

Respected Madam/ Sir,

I am a first year student doing my master's in Nursing (Community Nursing) at St. John's College of Nursing, Bangalore. I request your expert opinion on the validity of my research tool. The topic selected for the dissertation is **"A study to assess the knowledge and practices regarding universal precautions among health workers in primary health centers under anekal taluk,Bangalore with a view to develop an information booklet."** This dissertation is to be submitted to the Rajiv Gandhi University of Health Sciences, Bangalore, in partial fulfillment of the University requirement for the M.sc. (N) programme.

The objectives of the study are:

1. To assess the knowledge regarding universal precautions among health workers in primary health centers under anekal taluk
2. To assess the practice of universal precautions among health workers in primary health centers under anekal taluk.
3. To determine co-relation between knowledge of health workers and their practices regarding universal precautions

4. To find association between knowledge of health workers regarding universal precautions and selected baseline variables(age and years of experience)
5. To find association between practice of health workers regarding universal precautions and selected baseline variables(age and years of experience)

I kindly request you to give your valuable suggestions regarding the appropriateness of the tool. Please write your expert comments on the evaluation criteria check list enclosed.

I also request you to kindly sign in the certificate stating that you have validated the tool.

Thanking you in anticipation,

Yours faithfully,
Miss Rubey

Enclo:

1. Tool
   - Section -I: Performa to elicit baseline variables of health workers
   - Section -II: A structured questionnaire to assess the knowledge of health workers regarding universal precautions.
   - Section –III: A structured checklist to assess \the practice of health workers regarding universal precautions
   - Answer key for Knowledge Questionnaire
   - Blue Print

2. Validation criteria checklist.
3. Certificate of validation.

Date:

Place: Bangalore

Annexure 4

Criteria checklist for validation of tool

Dear Madam/ Sir,

Kindly go through the following criteria prepared for validating the tool. There are two columns given for your responses and a column for your remarks. Kindly place a tick mark in the appropriate column and give your valuable remarks wherever appropriate.

Sr no.	Criteria	Yes	No	Remarks
1	**Base line data** All the characteristics necessary for the study are included.			
2	**Questionnaire** Relevance to the topic of the study Item supports the objectives of the study. Organized under various heading Is arranged in sequence Covers the entire topic under the study Language is simple and easy to understand Is simple and sufficient to collect the required data.			

Sl. No	CRITERIA	YES	NO	REMARKS
3	**Check list** 1) Relevance to the topic of study. 2) Observation Items support the objectives of study 3)Arranged in sequence 4)Covers topics under study. 5)Simple and sufficient to collect data required.			

Any other comments:-

Section I
Baseline Data for health workers

Si. no	Items	Relevant	Needs modification	Not relevant	Remarks
1					
2					
3					
4					

SECTION – II

A structured questionnaire to assess the knowledge of health workers regarding universal precautions

Si. no	Items	Relevant	Needs modification	Not relevant	Remarks
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Section III-

Observation checklist to assess practice regarding universal precautions among health workers.

Si. no	Items	Relevant	Needs modification	Not relevant	Remarks
1	I 1. 2. 3. 4. 5.				
2	II 1. 2. 3.				

3	III 1. 2. 3. 4. 5. 6.				
4	1V 1. A B C D 2. A B C D 3. A B C 4. A B 5. A B				

Signature of validator :

Name :

Designation :

Annexure- 5

CERTIFICATE OF VALIDATION

This is to certify that the tool constructed by Miss Rubey Peter Cherian 1st year M.Sc. Nursing student at St. John's College of Nursing, to be used in her study titled "**A study to assess the knowledge and practices regarding universal precautions among health workers in primary health centers under Anekal taluk,Bangalore with a view to develop an information booklet**." has been found valid by me.

The tool is---

- Completely acceptable. [ ]
- Requires slight modification. [ ]
- Requires lots of modification. [ ]
- Not acceptable. [ ]

Signature:

Name:

Designation:

Date:

Annexure 6

List of experts who validated the tool

1) Prof. Rajeshwari Siva
   Dept of Community health Nursing
   Christian Medical College
   Vellore

2) Prof . Prakash
   Head of department of community health nursing
   Government college of nursing,
   Bangalore

3) Prof . P.Sathya,
   Department of community health nursing
   Yeneypoya college of nursing,
   Mangalore

4) Prof.Suja Karkade,
   Head of department of Community Health Nursing
   Manipal college of nursing,
   Mahe

5) Prof.Sr Cicil,
   Athena college of nursing
   Mangalore

6) Prof Mary Joseph,
   Department of community health nursing
   Government college of nursing,
   Calicut,,
   Kerala

7) Dr Naveen,
Associate Professor,
Department of community Health
St John's Medical college hospital
Bangalore.

8) Dr Ramakrishna Gowd,
Associate Professor
Department of community Health
St John's Medical college hospital
Bangalore.

9) Dr Karuna Ramakrishna
Professor & Head of department of Pathology
St John's Medical college hospital
Bangalore

Annexure 7

SECTION – I :- BASE LINE VARIABLES.

1 Age in years:-

2 Years of experience:-

4 Designation

3 Education:

4 Income:-

5 Have you had any classes on universal precautions before?

SECTION II :-PERFORMA TO ASSESS KNOWLDEGE OF HEALTH WORKERS REGARDING UNIVERSAL PRECAUTIONS.

INSTRUCTIONS.

1. ALL QUESTIONS SHOULD BE COMPULSARILY ATTENDED.
2. EACH RIGHT ANSWER CARRIES ONE MARK.
3. THERE IS NO NEGATIVE MARKING.
4. CIRCLE THE ANSWER WHICH YOU THINK IS RIGHT.

I-UNIVERSAL PRECAUTIONS

1) What are universal precautions?

a) Infection control techniques

b) Hospital acquired infections

c) Contact with infections

d) Occurrence of infections frequently.

2) What is an infection?

a) Normal cell growth in the body

b) Entry and multiplication of infectious agent in tissues.

c) Presence of disease in a healthy body

d) Disease caused due to environmental pollution.

3) What is sterilization?

a)Process of preventing transmission of micro organisms through droplet infection

b) Process of eliminating all bacterial spores.

c) Process that eliminates or destroys all forms of microbial life.

d) Process of preventing growth of micro organisms.

4) What is disinfection?

a) Process of eliminating all pathogenic organisms except bacterial spores.

b) Process of washing instruments under running water,

c) Process of preventing transmission of micro organisms through direct contact.

d) Process of transmission of micro organism through droplet infection.

5) Why should universal precautions be followed at work?

a) To improve standard of care.

b) To get accreditation.

c) To prevent risk of occupational exposure to blood.

d) For client satisfaction.

6) Which of the following specimens require the application of universal precautions while being handled?

a) Sweat

b) Blood

c) Tears

d) Nasal secretion

7) Which of the following items need to be sterilized before and after use?

a) Surgical items.

b) Mercury thermometers

c) ET tubes

d) Blood pressure cuffs.

8) Which of the following items need to be disinfected before and after use?.

a) Mercury thermometer.

b) Urinary Catheters.

c) Needles

d) ET tubes

9) Which of the following should not be done while administering injections?

a) Re-capping of used needles

b)Discarding sharps in puncture proof can

c) Discarding infected cotton in red bins

d) Single use of disposable syringes.

10) Which of the following precautions need to be kept in mind while caring for any patient?

a) Used needles should never be recapped.

b) Discard needles in puncture proof resistant cans.

c) Incinerate wastes without opening.

d) All of the above.

11) What should be done immediately in case of a needle stick injury?

a) Encourage bleeding from the wound

b) Cover with water proof dressing

c) Wash hands with soap and water.

d) Report to in-charge immediately

II-PERSONAL PROTECTIVE EQUIPMENTS

12) Which of the following is a personal protective device that is used in universal precautions?

a) Gloves

b) Aprons

c) Sweaters

d) Sandals.

13) What is the purpose of using gloves?

a) To promote well being

b) To minimize contact with people

c) To prevent allergies

d) To avoid contact with infectious waste.

14) How should gloves be disposed ideally?

a) Dumping in streets

b) Discarding with degradable waste items.

c) Sending to autoclave

d) Discard with plastic material

15) What is the common device used to prevent transmission of respiratory infection?

a) Mask

b) Gloves

c) Gown

d) Goggles.

16) What is the purpose of using gown?

a) To keep dress clean.

b) To avoid contact with infected blood and body fluids

c) Safe guard from environmental pollutes.

d) Limit contact with normal person.

17) You are administering an IV injection to a client. Which of the following PPE would you use compulsorily?

a) Gown

b) Mask

c) Gloves

d) Goggle

18) When should gloves be worn in the following situation?

a) After discarding waste material.

b) While handling medications

c) While handling waste and infectious materials

d) While Giving instructions to the patients.

19) In which of the following situations should masks be used?

a) Assisting in surgeries

b) Checking Vital signs

c) Administering injections

d) Minor wound dressing

20) Which safety devices are to be used while cleaning blood spilled on ground?

a) Goggles

b) Gown

c) Cap

d) Gloves.

21) You are transporting a patient affected with TB. Which of the following PPE should the client wear?

a) Mask.

b) Gown

c) Gloves

d) Sandals.

22) How should sharp items be handled?

a) With bare hands.

b) With forceps.

c) With paper

d) With gloves.

23) In which of the following situations should gown be used?

a) If the clients hygiene is poor.

b) If the client has hepatitis or AIDS

c) If you are administering medications.

d) If blood or bloody products may get on your clothing from a task you plan to perform.

24) Which of the following PPE would you use in case of collection of blood specimen?

a) Gloves.

b) Gown

c) Mask

d) Goggle.

25) Which of the following do not require application of universal precaution?

a) Vomitus with blood

b) Sweat

c) CSF

d) Vaginal Secretions

III- COLOUR CODE/WASTE DISPOSAL.

26) Which colour code container is used for collecting infected cotton?

a) Red

b) Blue

c) Yellow

d) Black.

27) Which container is used for collecting plastic waste materials?

a) Red

b) Yellow

c) Blue

d) Black

28) Where will you discard used needles?

a) Red puncture proof bin

b) Black puncture proof bin

c) White puncture proof bin

d)Black puncture proof bin.

29) In which container will you discard paper wastes?

a) Black.

b)Yellow.

c) Blue

d) Red

30) Which color code container is used for collecting soiled waste material?

a) Red

b) Yellow

c) Blue

d) Black

IV -HAND WASHING.

31) What is the purpose of hand washing?

a) Reduce the number of microorganisms

b) Protection from injury

c) Promotion of well being

d) Prevent and control transmission of infection.

32) Which of the following is best for hand washing?

a) Plain water

b) Plain water with soap

c) Cold Water

d) Warm water

33) How much time is required for routine hand washing?

a) 10-15 sec

b) 30 seconds

c) 40 seconds

d) 60 seconds.

34) When should hands be ideally washed in a health care setting?

a) When somebody gives instruction.

b) Before and after doing any procedure

c) After finishing any work

d) After examining the patient

35) How should hand washing be done?

a) Quickly dipping in warm water.

b) Following steps of hand washing

c) Having the hands under the tap.

d) Washing in plain water

Annexure 8

ANSWER KEY.

Question no.	Answer	Question no	Answer
1	a	19	a
2	b	20	d
3	c	21	a
4	a	22	d
5	c	23	d
6	b	24	a
7	a	25	b
8	a	26	a
9	b	27	c
10	d	28	c
11	c	29	a
12	a	30	a
13	d	31	d
14	d	32	b
15	a	33	a
16	a	34	b
17	c	35	b
18	c		

Annexure 9

Observation checklist to assess practice of universal precautions among health workers while administering injections.

SECTION – III (A)

Oservation checklist to assess practice of universal precautions among health workers while adminstering injections.

Steps of universal precautions	**Done (1)**	**Not done (0)**	**Remarks**
I-HAND HYGIENE. **Washes hands:-** 1) Following the steps of hand washing. 2) Before giving injection. 3) After giving injection 4) Between contact with each patients. 5) After removing gloves.			
II-PERSONAL PROTECTIVE EQUIPMENTS:- **GLOVES ARE :-** 1) Used while administering injections. 2) Disposed after single use. 3)Changed between each patients			
III-WASTE DISPOSAL:- **1.** Disposible syringes are discarded in blue bin. **2.** Sharp items are dispose din white puncture proof bin. **3.** White puncture proof can is covered appropriately. **4.** Infected cotton is discarded in red bin **5.** Used cotton is discarded in black bin.	**Done**	**Not Done**	**Remarks**

SECTION –III (B)

Checklist to assess the availability of resources.

RESOURCES	Available (1)	Not available(0)	Remarks
IV-AVAILABILITY OF RESOURCES:-			
Appropriate bins for waste disposal:-			
a) Red bin for infectious waste.			
b) Blue bin for plastic wastes			
c) Black bin for general wasted			
d) White puncture proof can for sharps.			
2)**Adequate PPE available for any use:-**			
a) Gloves			
b) Mask			
c) Apron			
d) Goggles.			
3)**Adequate facilities available for hand hygiene:-**			
a) Adequate water.			
b) Soap/Cleansing solutions			
c) Clean towel.			
d) Clean washing area			
4)**Disinfection and sterilizing procedures:-**			
a) Facilities for sterilizing procedures			
b) Solutions for disinfection of articles			
5)Facilities for health workers:-			
a) Training about universal precautions			
b) Adequate supervision on application of universal precautions.			

Annexure 10
Kannada translation of the tool.

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ಅಧ್ಯಯನದ ಉಪಕರಣ

ವಿಭಾಗ 1 -- ವಿಧವಿಧವಾದ ತಳಹದಿಯ ಬಾಂಧ

1. ವಯಸ್ಸು ವರ್ಷಗಳಲ್ಲಿ :
2. ಅನುಭವ ವರ್ಷಗಳಲ್ಲಿ :
3. ಹುದ್ದೆ :
4. ನಿಯೋಜಿತ :
5. ಆದಾಯ :
6. ಈ ಮೊದಲು ನೀವು ಅಂತರಾಷ್ಟ್ರೀಯ ಮುಂಜಾಗ್ರತಾ ಕ್ರಮಗಳ ತರಬೇತಿಗಳಲ್ಲಿ ಭಾಗವಹಿಸಿದ್ದೀರಾ?

ವಿಭಾಗ -- 2 ಅಂತರಾಷ್ಟ್ರೀಯ ಮುಂಜಾಗ್ರತಾ ಕ್ರಮಗಳ ಬಗ್ಗೆ ಆರೋಗ್ಯ ಕಾರ್ಯಕರ್ತರ ಜ್ಞಾನವನ್ನು ಪ್ರಮಾಣೀಕರಿಸುವ ನಮೂನೆ

ಸೂಚನೆಗಳು:

1. ಎಲ್ಲ ಪ್ರಶ್ನೆಗಳನ್ನು ಕಡ್ಡಾಯವಾಗಿ ನೋಡಿ ಉತ್ತರಿಸಬೇಕು
2. ಪ್ರತಿಯೊಂದ ಸರಿಯಾದ ಉತ್ತರಕ್ಕೆ ಒಂದು ಅಂಕ ಇರುತ್ತದೆ.
3. ಇಲ್ಲಿ ಯಾವುದೇ ರೀತಿಯ ನಕಾರಾತ್ಮಕೆ ಅಂಕವಿರುವುದಿಲ್ಲ.
4. ನಿಮಗೆ ಸರಿ ಅನಿಸಿದಂತಹ ಉತ್ತರಕ್ಕೆ ಒಂದು ಗೋಳ ಹಾಕಿರಿ.

1. **ಅಂತರಾಷ್ಟ್ರೀಯ ಮುಂಜಾಗ್ರತಗಳು ಯಾವವು?**

ಎ) ಸೋಂಕುಗಳನ್ನು ನಿಯಂತ್ರಿಸುವಂತಹ ತಂತ್ರ
ಬಿ) ಆಸ್ಪತ್ರೆಯಿಂದ ಪಡೆದುಕೊಳ್ಳಂತ ಸೋಂಕುಗಳು
ಸಿ) ಸೋಂಕುಗಳಿಂದಿಗೆ ಸಂಪರ್ಕ
ಡಿ) ಮೇಲಿಂದ ಮೇಲೆ ಸೋಂಕುಗಳು ಸಂಭವಿಸುವಿಕೆ.

2. **ಸೋಂಕು ಎಂದರೇನು?**

ಎ) [illegible]
ಬಿ) ದೇಹದ ಹೊರೆಯಲ್ಲಿ ಸೋಂಕುಗಳ ಮಧ್ಯವರ್ತಿಗಳ ಹೆಚ್ಚುವಿಕೆ ಮತ್ತು ಪ್ರವೇಶವಾಗುವಿಕೆ.
ಸಿ) [illegible]
ಡಿ) ವಾತಾವರಣದ ನೈರ್ಮಲ್ಯತೆಯು ರೋಗಕ್ಕೆ ಕಾರಣವಾಗುವುದು

3 ಬರಡುಗೊಳಿಸುವಿಕೆ

ಎ) ಸೋಂಕುಗಳು ಹನಿಹನಿಯಾಗಿ ಶರೀರದ ಸೂಕ್ಷ್ಮ ರಚನೆಯ ಮೂಲಕ ಹರಡುವುದರ ಬಗ್ಗೆ ಮುಂಜಾಗ್ರತೆಯನ್ನು ತೆಗೆದುಕೊಳ್ಳುವ ಕ್ರಮ.
ಬಿ) ಎಲ್ಲ ರೋಗಾಣುಗಳ ತೆಗೆದುಹಾಕುವ ಕ್ರಮ
ಸಿ) ಸೂಕ್ಷ್ಮರೋಗಜೀವಿಗಳನ್ನು ತೆಗದುಹಾಕುವ ಅಥವಾ ನಾಶಗೊಳಿಸುವ ಕ್ರಮ
ಡಿ) ಸೂಕ್ಷ್ಮ ಜೀವಕೋಶಗಳು ಬೆಳೆಯದಂಎ ತಡೆಗಟ್ಟುವ ಕ್ರಮ

4. ಸೋಂಕುರಹಿತವೆಂದರೇನು ?

ಎ) ರೋಗಾಣುಗಳ ಹೊರತಾಗಿ ಶರೀರ ಜೀವಕೋಶಗಳ ರಚನೆಯ ಎಲ್ಲ ರೋಗಲಕ್ಷಣ ತೆಗೆದುಹಾಕುವ ಕ್ರಮ
ಬಿ) ಹರಿಯುವ ನೀರಿನಡಿಯಲ್ಲಿ ಉಪಕರಣಗಳನ್ನು ತೊಳೆಯುವಂತಹ ಕ್ರಮ.
ಸಿ) ನೇರವಾದ ಸಂಪರ್ಕದಿಂದ ಸೂಕ್ಷ್ಮ ಶರೀರರಚನೆಯ ಹರಡುವಿಕೆಯನ್ನು ತಡೆಗಟ್ಟುವ ಕ್ರಮ
ಡಿ) ಹನಿಯಾದ ಸೋಂಕಿನಿಂದ ಸೂಕ್ಷ್ಮ ಶರೀರ ರಚನೆಯ ಮೂಲಕ ಹರಡುವ ಕ್ರಮ

5. ಕೆಲಸದಲ್ಲಿ ಅಂತರಾಷ್ಟ್ರೀಯ ಮುಂಜಾಗ್ರತಾ ಕ್ರಮಗಳನ್ನು ಅನುಸರಿಸುವುದು ಏಕೆ?

ಎ) ಉತ್ತಮ ಗುಣಮಟ್ಟದ ಬಗ್ಗೆ ಎಚ್ಚರಿಕೆಯನ್ನು ಉತ್ತಮಗೊಳಿಸುವುದು
ಬಿ) ಅಧಿಕೃತತೆಯನ್ನು ಪಡೆಯಲು
ಸಿ) ರಕ್ತ ವೃತ್ತಿ ಸಂಬಂಧಿತದಂತಹ ಅನಾಹುತಗಳಿಂದ ರಕ್ತಸಂಬಂಧಿತ ಕೆಲಸದಲ್ಲಿ ಮಾಡುವವರನ್ನು ಅಪಾಯದಿಂದ ತಡೆಗಟ್ಟಲು)
ಡಿ) ಅವಲಂಬಿತಗರ ಸಮಾಧಾನಕ್ಕಾಗಿ

6. ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಅಂತರಾಷ್ಟ್ರೀಯ ಮುಂಜಾಗ್ರತೆಯನ್ನು ನಿರ್ವಹಿಸುವ ವೇಳೆಯಲ್ಲಿ ಯಾವ ಮಾದರಿಗಳು ಬೇಕಾಗಿರುತ್ತವೆ.

ಎ) ಬೆವರುವಿಕೆ
ಬಿ) ರಕ್ತ
ಸಿ) ಕಣ್ಣೀರು
ಡಿ) ಮೂಗಿನ ದ್ರವ

7. ಕೆಳಗಿನ ವಸ್ತುಗಳಲ್ಲಿ ಯಾವುದನ್ನು ಉಪಯೋಗದ ಮೊದಲು ಮತ್ತು ನಂತರ ಬರಡುಗೊಳಿಸಬೇಕು

ಎ) ಶಸ್ತ್ರ ಚಿಕಿತ್ಸಾ ಉಪಕರಣಗಳು
ಬಿ) ಪಾದರಸದ ಥರ್ಮಾಮೀಟರ್
ಸಿ) ಇಟಿ ನಳಕೆಗಳು
ಡಿ) ರಕ್ತದೊತ್ತಡ ತೋಳುಪಟ್ಟಿ

8. **ಕೆಳಗಿನ ಅಂಶಗಳಲ್ಲಿ ಯಾವುದನ್ನು ಉಪಯೋಗಿಸುವ ಮೊದಲು ಮತ್ತು ನಂತರ ಸೋಂಕುರಹಿತವನ್ನಾಗಿ ಮಾಡಬೇಕು**

ಎ) ಪಾದರಸದ ಥರ್ಮಾಮೀಟರ್
ಬಿ) ಮೂತ್ರದ ಕ್ಯಾಥಿಟರ್‌ಗಳು
ಸಿ) ಸೂಜಿಗಳು
ಡಿ) ಇವು ನಳಿಕೆಗಳು

9. **ಚುಚ್ಚುಮದ್ದು ನೀಡುವಾಗ ಇರುವಾಗ ಕೆಳಗಿನ ಯಾವ ಅಂಶವನ್ನು ಮಾಡಬಾರದು**

ಎ) ಉಪಯೋಗಿಸಿದ ಸೂಜಿಗಳನ್ನು ಮುಚ್ಚಬೇಕು.
ಬಿ) ಮೊನಚಾದವುಗಳನ್ನು ಪಂಕ್ಚರ್ ಕ್ಯಾನಿನಲ್ಲಿ ವಿಸರ್ಜಿಸಬೇಕು.
ಸಿ) ಸೋಂಕಿನ ಹತ್ತೆಯನ್ನು ಕೆಂಪಾದ ತೊಟ್ಟಿಗಳಲ್ಲಿ ಹಾಕಬೇಕು.
ಡಿ) ಸಿರಿಂಜ್‌ಗಳನ್ನು ಒಂದೇ ಸಾರಿ ಉಪಯೋಗಿಸಿ ವಿಸರ್ಜಿಸಬೇಕು.

10. **ರೋಗಿಯನ್ನು ಆರೈಕೆ ಮಾಡುವಾಗ ಕೆಳಗಿನ ಯಾವ ಅಂಶಗಳನ್ನು ನೆನಪಿನಲ್ಲಿ ಇಟ್ಟುಕೊಂಡು ಮುಂಜಾಗ್ರತಾ ಕ್ರಮ ಅನುಸರಿಸಬೇಕು.**

ಎ) ಉಪಯೋಗಿಸಿದ ಸೂಜಿಗಳನ್ನು ಯಾವತ್ತೂ ಮುಚ್ಚಿಡಬಾರದು
ಬಿ) ಮೊನಚಾದವುಗಳನ್ನು ಪಂಕ್ಚರ್ ಕ್ಯಾನಿನಲ್ಲಿ ವಿಸರ್ಜಿಸಬೇಕು.
ಸಿ) ತೆರೆದಿಡದೇ ಎಲ್ಲ ನಿರುಪಯೋಗಿ ವಸ್ತುಗಳನ್ನು ದಹಿಸಬೇಕು
ಡಿ) ಮೇಲಿನವುಗಳನ್ನು ಎಲ್ಲ ಅನುಸರಿಸಬೇಕು.

11. **ಸೂಜಿ ಚುಚ್ಚಿ ಗಾಯವಾದ ಪಕ್ಷದಲ್ಲಿ ತಕ್ಷಣವೇ ಯಾವ ಕ್ರಮವನ್ನು ಅನುಸರಿಸಬೇಕು.**

ಎ) ಗಾಯದಿಂದ ರಕ್ತ ಸೋರುವುದನ್ನು ಹೆಚ್ಚಿಸಬೇಕು.
ಬಿ) ನೀರಿನಿಂದ ತಡೆಯುವಂತಹದ್ದರಿಂದ ರಕ್ಷಿಸಿ ಬಟ್ಟೆ ಕಟ್ಟಬೇಕು.
ಸಿ) ಕೈಯನ್ನು ಸೋಪಿನಿಂದ ಮತ್ತು ನೀರಿನಿಂದ ತೊಳೆಯಬೇಕು.
ಡಿ) ತಕ್ಷಣವೇ ಜವಾಬ್ದಾರಿಯುತರಿಗೆ ವರದಿ ಮಾಡಿಕೊಳ್ಳಬೇಕು.

<u>2) ವೈಯಕ್ತಿಕ ರಕ್ಷಣಾ ಉಪಕರಣಗಳು</u>

12) **ಅಂತರಾಷ್ಟ್ರೀಯ ಮುಂಜಾಗ್ರತಾ ರಕ್ಷಣಾ ಉಪಕರಣಗಳನ್ನು ಕೆಳಗಿನ ಯಾವ ವಯಕ್ತಿಕ ರಕ್ಷಣಾ ಉಪಕರಣಗಳನ್ನು ಅನುಸರಿಸಬೇಕು?**

ಎ) ಕೈ ಕವಚಗಳು
ಬಿ) ಮೇಲ್ಬಟ್ಟೆ
ಸಿ) ಸ್ಪೇಟರ್‌ಗಳು
ಡಿ) ಚಪ್ಪಲಿಗಳು

13. **ಕೈಕವಚಗಳನ್ನು ಉಪಯೋಗಿಸುವ ಉದ್ದೇಶವೇನು?**

ಎ) ಬೆನ್ನಾಗಿರುವುದನ್ನು ಉತ್ತೇಜನ ನೀಡುವುದಕ್ಕೆ
ಬಿ) ಜನರೊಂದಿಗಿನ ಸಂಪರ್ಕವನ್ನು ಕಡಿಮೆಗೊಳಿಸುವುದಕ್ಕೆ
ಸಿ) ಒಗ್ಗದಿರುವುದರಿಂದ ತಪ್ಪಿ
ಡಿ) ಸೋಂಕು ಅಂಟಿಸುವ ನಿರುಪಯುಕ್ತಗಳ ಸಂಪರ್ಕವನ್ನು ತಪ್ಪಿಸಲು.

14. **ಕೈಕವಚಗಳನ್ನು ಸರಳವಾಗಿ ಹೇಗೆ ನಾಶಪಡಿಸಬೇಕು?**

ಎ) ರಸ್ತೆಗಳಲ್ಲಿ ಬೀಸಾಕುವುದರಿಂದ
ಬಿ) ಕರಗುವ ನಿರುಪಯುಕ್ತ ವಸ್ತುಗಳನ್ನು ವಿಸರ್ಜಿಸುವುದು.
ಸಿ) ಅಟೋಕ್ಲೇವ್‌ಗೆ ಕಳಸುವುದು
ಡಿ) ಪ್ಲಾಸ್ಟಿಕ್ ವಸ್ತುಗಳ್ಳೊಂದಿಗೆ ವಿಸರ್ಜಿಸುವುದು.

15. **ಉಸಿರಾಟದ ಮುಖಾಂತರ ಹರಡುವ ಸೋಂಕುಗಳನ್ನು ಸಾಮಾನ್ಯವಾಗಿ ಯಾವ ಯಾವ ಸಾಮಾನ್ಯ ಉಪಕರಣದಿಂದ ಸ್ಥಳಾಂತರಿಸುವುದರಿಂದ ರಕ್ಷಣೆಗಾಗಿ ಉಸಿರೆಳೆಯುವ ಹವೆಯನ್ನು ಬೆಚ್ಚಗಿರಿಸಲು ಇಲ್ಲವೆ ಸೋಸಲು ಮೂಗು ಮತ್ತು ಬಾಯಿಗಳ ಮೇಲೆ ಧರಿಸುವ ಉಪಕರಣ**

ಎ) ಮಾಸ್ಕ್
ಬಿ) ಕೈಕವಚಗಳು
ಸಿ) ಗೌನ್
ಡಿ) ಕನ್ನಡಕಗಳು

16. **ಗೌನ್‌ನನ್ನು ಯಾವು ಉದ್ದೇಶಕ್ಕಾಗಿ ಬಳಸಲಾಗುತ್ತದೆ?**

ಎ) ಬಟ್ಟೆಗಳನ್ನು ಸ್ವಚ್ಛವಾಗಿಡಲು
ಬಿ) ದೇಹದಿಂದ ದ್ರವ ಮತ್ತು ಸೋಂಕಿನ ರಕ್ತದ ಜೊತೆಗೆ ಸಂಪರ್ಕವನ್ನು ತಪ್ಪಿಸಲು
ಸಿ) ವಾತಾವರಣದ ಮಾಲಿನ್ಯದಿಂದ ರಕ್ಷಿಸಿಕೊಳ್ಳಲು
ಡಿ) ಸಾಮಾನ್ಯ ಜನರೊಂದಿಗೆ ಸಂಪರ್ಕ ಕಡಿತಗೊಳಿಸಲು

17. **ನೀವು ರೋಗಿಗೆ ಐವಿ ಚುಚುಮದ್ದನ್ನು ನೀಡುತ್ತಿದ್ದೀರಿ. ಕೆಳಗಿನ ಯಾವ ಪಿಪಿಇಯನ್ನು ಅತ್ಯವಶ್ಯಕವಾಗಿ ಬಳಸಬೇಕು?**

ಎ) ಗೌನ್
ಬಿ) ಕೈಕವಚಗಳು
ಸಿ) ಮಾಸ್ಕ್
ಡಿ) ಕೈಕವಚಗಳು
ಇ) ಕನ್ನಡಕಗಳು

18. ಯಾವಾಗ ಕೈ ಕವಚವನ್ನು ಕೆಳಗಿನ ಯಾವ ಸಂದರ್ಭದಲ್ಲಿ ಧರಿಸಬೇಕು?

ಎ) ನಿರುಪಯುಕ್ತವಾದಂತಹ ವಸ್ತುಗಳನ್ನು ವಿಸರ್ಜಿಸಿದ ನಂತರ
ಬಿ) ಔಷಧೋಪಚಾರ ಮಾಡುವ ಸಂದರ್ಭದಲ್ಲಿ
ಸಿ) ರೋಗ ಸಂಬಂಧಿತ ವಸ್ತುಗಳ ಮತ್ತು ನಿರುಪಯುಕ್ತ ವಸ್ತುಗಳನ್ನು ಹಿಡಿಯುವ ವೇಳೆಯಲ್ಲಿ.
ಡಿ) ರೋಗಿಗಳಿಗೆ ಸೂಚನೆಗಳನ್ನು ನೀಡುವ ಸಂದರ್ಭದಲ್ಲಿ.

19. ಕೆಳಗಿನ ಯಾವ ಸಂದರ್ಭದಲ್ಲಿ ಮಾಸ್ಕಗಳನ್ನು ಬಳಸಬೇಕು?

ಎ) ಶಸ್ತ್ರಚಿಕಿತ್ಸೆಗಾಗಿ ಸಹಕರಿಸುತ್ತಿರುವ ಸಂದರ್ಭದಲ್ಲಿ
ಬಿ) ಮರ್ಮಾಂಗಗಳ ಗುರ್ತುಗಳನ್ನು ಪರಿಕ್ಷಿಸುವಾಗ
ಸಿ) ಚುಚ್ಚು ಮದ್ದನ್ನು ನೀಡುವಾಗ
ಡಿ) ಚಿಕ್ಕ ಗಾಯಗಳಿಗೆ ಚಿಕಿತ್ಸೆ ನೀಡುವಾಗ

20. ಯಾವ ಸುರಕ್ಷಿತ ಉಪಕರಣವನ್ನು ರಕ್ತವು ಭೂಮಿಯ ಮೇಲೆ ಬಿದ್ದಾಗ ಸ್ವಚ್ಛಗೊಳಿಸುವಂತಹ ವೇಳೆಯಲ್ಲಿ ಬಳಸಲಾಗುತ್ತದೆ?

ಎ) ಕನ್ನಡಕಗಳು
ಬಿ) ಮಾಸ್ಕ್
ಸಿ) ಗೌನ್
ಡಿ) ಕೈಕವಚಗಳು

21. ನೀವು ಟಿಬಿ ರೋಗ ಪೀಡಿತನಾದ ರೋಗಿಯನ್ನು ಸಾಗಿಸುತ್ತಿರುವಾಗ ಯಾವ ಪಿಪಿಇ ಯನ್ನು ನೀವು ಧರಿಸಿರಬೇಕು?

ಎ) ಮಾಸ್ಕ್
ಬಿ) ಗೌನ್
ಸಿ) ಕೈಕವಚಗಳು
ಡಿ) ಸ್ಯಾಂಡಲ್ಸ್

22. ಮೊನಚಾದ ವಸ್ತುಗಳನ್ನು ಹೇಗೆ ಹಿಡಿಯಬೇಕು?

ಎ) ಬರಿ ಕೈಗಳಿಂದ
ಬಿ) ಇಕ್ಕಳಗಳಿಂದ
ಸಿ) ಹಾಳೆಯಿಂದ
ಡಿ) ಕೈ ಕವಚಗಳಿಂದ

23 ಕೆಳಗಿನ ಯಾವ ಸಂದರ್ಭದಲ್ಲಿ ಗೌನ್‌ನನ್ನು ಉಪಯೋಗಿಸಬೇಕು?

ಎ) ಒಂದು ವೇಳೆ ರೋಗಿಯು ಸ್ವಚ್ಛವಾಗಿ ಇಲ್ಲದಾಗ
ಬಿ) ಒಂದು ವೇಳೆ ರೋಗಿಯು ಕಾಮಾಲೆ ಅಥವಾ ಏಡ್ಸ್‌ನಿಂದ ಬಳಲುತ್ತಿದ್ದರೆ
ಸಿ) ಔಷಧೋಪಚಾರ ಮಾಡುವಾಗ
ಡಿ) ಒಂದು ವೇಳೆ ರಕ್ತವು ಅಥವಾ ರಕ್ತಸಿಕ್ತ ವಸ್ತುಗಳು ನಿಮ್ಮ ಬಟ್ಟೆ ಮೇಲೆ ಬೀಳದಂತೆ ನೋಡಿಕೊಳ್ಳುವಾಗ.

24. ಕೆಳಗಿನ ಯಾವ ಪಿಪಿಇ ಯನ್ನು ರಕ್ತಯುಕ್ತ ಮಾದರಿಗಳನ್ನು ಸಂಗ್ರಹಿಸುವಾಗ ಉಪಯೋಗಿಸಲಾಗುತ್ತದೆ.

ಎ) ಕೈಕವಚಗಳು
ಬಿ) ಗೌನ್
ಸಿ) ಮಾಸ್ಕ
ಡಿ) ಕನ್ನಡಕ.

25) ಅಂತರಾಷ್ಟ್ರೀಯ ಮುಂಜಾಗ್ರತೆಯಲ್ಲಿ ಈ ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವುವು ಬೇಕಾಗಿರುವುದಿಲ್ಲ

ಎ) ರಕ್ತ ವಾಂತಿಯಾಗುವಿಕೆ
ಬಿ) ಬೆವರುವಿಕೆ
ಸಿ) ಸಿಎಸ್‌ಎಫ್
ಡಿ) ಯೋನಿನಾಳದ ಸೋರಿಕೆ

(3) ಬಣ್ಣದ ಗುರುತು/ನಿರುಪಯುಕ್ತ ವಸ್ತುಗಳ ದಹಿಸುವಿಕೆ

26) ಸೋಂಕಿತ ಹತ್ತಿಯನ್ನು ಬಳಸುವಾಗ ಯಾವ ಬಣ್ಣದ ಕಂಟೇನರ್‌ನ್ನು ಉಪಯೋಗಿಸುವುದು

ಎ) ಕೆಂಪು
ಬಿ) ನೀಲಿ
ಸಿ) ಹಳದಿ
ಡಿ) ಕಪ್ಪು

27) ನಿರುಪಯುಕ್ತವಾದಂತ ಪ್ಲಾಸ್ಟಿಕ್ ವಸ್ತುಗಳನ್ನು ಸಂಗ್ರಹಿಸುವಾಗ ಯಾವ ಕಂಟೇನರ್‌ನ್ನು ಉಪಯೋಗಿಸಬೇಕು?

ಎ) ಕೆಂಪು
ಬಿ) ಹಳದಿ
ಸಿ) ನೀಲಿ
ಡಿ) ಕಪ್ಪು

29) ಉಪಯೋಗಿಸಿದಂತಹ ಸೂಜಿಗಳನ್ನು ಎಲ್ಲಿ ದಹಿಸಬೇಕು ?

ಎ) ಕೆಂಪು ಬಣ್ಣದ ಒಡೆಯದಂತಹ ಬಿನ್‌ನಲ್ಲಿ ಹಾಕಬೇಕು
ಬಿ) ಕಪ್ಪು ಬಣ್ಣದ ಒಡೆಯದಂತಹ ಬಿನ್‌ನಲ್ಲಿ ಹಾಕಬೇಕು
ಸಿ) ನೀಲಿ ಬಣ್ಣದ ಒಡೆಯದಂತಹ ಬಿನ್‌ನಲ್ಲಿ ಹಾಕಬೇಕು
ಡಿ) ಕಪ್ಪು ಬಣ್ಣದ ಒಡೆಯದಂತಹ ಬಿನ್‌ನಲ್ಲಿ ಹಾಕಬೇಕು

30) ನಿರುಪಯುಕ್ತ ತೂಲಿಗಳನ್ನು ಯಾವ ಕಂಟೇನರ್‌ನಲ್ಲಿ ಹಾಕಬೇಕು?

ಎ) ಕಪ್ಪು
ಬಿ) ಹಳದಿ
ಸಿ) ನೀಲಿ
ಡಿ) ಕೆಂಪು

31) ನಿರುಪಯುಕ್ತ ಗಟ್ಟಿ ವಸ್ತುಗಳನ್ನು ಯಾವ ಬಣ್ಣದ ಕಂಟೇನರ್‌ನಲ್ಲಿ ಶೇಖರಿಸಬೇಕು?

ಎ) ಕೆಂಪು
ಬಿ) ಹಳದಿ
ಸಿ) ನೀಲಿ
ಡಿ) ಕಪ್ಪು

32) ಯಾವ ಉದ್ದೇಶಕ್ಕಾಗಿ ಕೈಯನ್ನು ತೊಳೆಯಬೇಕು?

ಎ) ಸೂಕ್ಷ್ಮಾಣುಗಳ ಸಂಖ್ಯೆಯನ್ನು ಕಡಿಮೆಗೊಳಿಸಲು
ಬಿ) ಗಾಯಗಳಿಂದ ರಕ್ಷಣೆಪಡೆಯಲು
ಸಿ) ಆರೋಗ್ಯವಾಗಿರುವುದಕ್ಕೋಸ್ಕರ
ಡಿ) ಸೋಂಕಾಣುಗಳ ವಹನಗಳನ್ನು ನಿಯಂತ್ರಿಸಲು ಮತ್ತು ರಕ್ಷಣೆಪಡೆಯಲು

33) ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಕೈ ತೊಳೆಯಲು ಯಾವುದು ಒಳ್ಳೆಯದು?

ಎ) ಸುದಾ ನೀರು
ಬಿ) ನಾದಾ ನೀರಿಮೇಲಿಂದಿಗೆ ಸಾಬೂನು
ಸಿ) ಹಣ್ಣಿನ ನೀರು
ಡಿ) ಐಸ್ ನೀರು

34) ದಿನನಿತ್ಯ ಕೈತೊಳೆದುಕೊಳ್ಳಲು ಬೇಕಾಗುವಂತಹ ಸಮಯವೆಷ್ಟು?

ಎ) ೧೦-೧೫ ಸೆಕೆಂಡುಗಳು
ಬಿ) ೩೦ ಸೆಕೆಂಡುಗಳು
ಸಿ) ೪೦ ಸೆಕೆಂಡುಗಳು
ಡಿ) ೬೦ ಸೆಕೆಂಡುಗಳು

35) ಆರೋಗ್ಯವನ್ನು ಸುದಾರಿಸುವಲ್ಲಿ ಸಾಮಾನ್ಯವಾಗಿ ಯಾವಾಗ ಕೈಯನ್ನು ತೊಳೆದುಕೊಂಡರೆ ಉತ್ತಮ ?

ಎ) ರೋಗಿಯಲ್ಲಿ ಸೂಚನೆಗಳನ್ನು ನೀಡುವಾಗ
ಬಿ) ಯಾವುದೇ ಕ್ರಿಯೆಯನ್ನು ನಡೆಸುವ ಮೊದಲು ಮತ್ತು ನಂತರ
ಸಿ) ಯಾವುದೇ ರೋಗಿಯನ್ನು ಮುಗಿಸಿದ ನಂತರ
ಡಿ) ರೋಗಿಯನ್ನು ಪರೀಕ್ಷೆ ಮಾಡಿದ ನಂತರ

36) ಕೈಗಳನ್ನು ಯಾವ ರೀತಿಯಲ್ಲಿ ತೊಳೆದುಕೊಳ್ಳಬೇಕು?

ಎ) ಬಿಸಿನೀರಿನಲ್ಲಿ ಕೈಯನ್ನು ಬೇಗ ಅದ್ದುವುದು
ಬಿ) ಕೈತೊಳೆಯುವ ಕ್ರಮಗಳನ್ನು ಅನುಸರಿಸುವುದು
ಸಿ) ಎಲ್ಲಾ ಕೆಳಗೆ ಕೈಯನ್ನು ಹಿಡಿದು ತೊಳೆದುಕೊಳ್ಳುವುದು
ಡಿ) ಸಾದಾ ನೀರಿನಲ್ಲಿ ತೊಳೆಯುವುದರಿಂದ

ಏಭಾಗ–3ಎ

ಚುಚ್ಚುಮದ್ದು ಕೊಡುವಾಗ ಗಮನಕ್ಕೆ ತರುವ ಸಾರ್ವತ್ರಿಕ ಮುಂಜಾಗ್ರತೆಗಳು

ವಿಧಾನಗಳು	ಮಾಡಿರುವುದು	ಮಾಡಿಲ್ಲ	ಅಭಿಪ್ರಾಯ
1) ಕೈ ತೊಳೆಯುವ ವಿಧಾನ			
1. ಕೈ ತೊಳೆಯುವುದು			
2. ಕೈತೊಳೆಯುವ ಎಲ್ಲಾ ಕ್ರಮಗಳನ್ನು ಪಾಲಿಸುವುದು			
3. ಚುಚ್ಚುಮದ್ದು ಹಾಕುವ ಮುನ್ನ ಕೈತೊಳೆಯುವುದು			
4. ಒಂದೊಂದು ರೋಗಿಯ ನಡುವೆ ಕೈ ತೊಳೆಯುವುದು			
2) ವೈಯಕ್ತಿಕ ರಕ್ಷಣಾ ಉಪಕರಣಗಳು			
1) ಚುಚ್ಚುಮದ್ದು ಕೊಡುವಾಗ ಉಪಯೋಗಿಸುವುದು			
2) ಒಂದು ಬಾರಿ ಉಪಯೋಗಿಸಿ ಬಿಸಾಡುವುದು ಒಂದೊಂದು ರೋಗಿಗಳ ಮಧ್ಯ ಬದಲಾಯಿಸುವುದು			
3) ಕಸ ಬಿಸಾಡುವಿಕೆ.			
1) ಉಪಯೋಗಿಸಿದ ಸೂಜಿಗಳನ್ನು ನೀಲಿ ಬಿನ್‌ನಲ್ಲಿ ಹಾಕುವುದು			
2) ಚೂಪಾದ ವಸ್ತುಗಳನ್ನು ಒಡೆಯದಂತಹ ಬಿಳಿ ಬಿನ್‌ನಲ್ಲಿ ಹಾಕುವುದು			
3) ಒಡೆಯದಂತಹ ಬಿಳಿ ಬಿನ್ ಸರಿಯಾಗಿ ಮುಚ್ಚಿಡಬೇಕು.			
4) ಸೋಂಕಿದ ಹತ್ತಿಯನ್ನು ಕೆಂಪು ಬಿನ್‌ನಲ್ಲಿ ಹಾಕುವುದು			
5) ಉಪಯೋಗಿಸಿದ ಹತ್ತಿಯನ್ನು ಕಪ್ಪುಬಿನ್‌ನಲ್ಲಿ ಹಾಕುವುದು			

ವಿಭಾಗ-3ಬ

ದ್ರವ್ಯ ಸೌಲಭ್ಯಗಳ ಸೂಚನೆಯ ಪಟ್ಟಿ

4 ದ್ರವ್ಯಲಭ್ಯತೆ	ಉಪಯೋಗ	ಇಲ್ಲ	ಅಭಿಪ್ರಾಯ
1) ಬಣ್ಣಗಳಿರುವ ವಿಂಗಡಣಾ ಬುಟ್ಟಿಗಳು			
ಅ) ಸೋಂಕಿತ ವಸ್ತುಗಳಿಗೆ ಕೆಂಪು ಬಣ್ಣ			
ಆ) ಪ್ಲಾಸ್ಟಿಕ್ ವಸ್ತುಗಳಿಗೆ ನೀಲಿ ಬಣ್ಣ			
ಇ) ಸಾಮಾನ್ಯ ವಸ್ತುಗಳಿಗೆ ಕಪ್ಪು ಬಣ್ಣ			
ಈ) ಸೂಜಿಗಳಿಗೆ ಒಡೆಯದಂತಹ ಬಿಳಿ ಬಣ್ಣ			
2) ವೈಯಕ್ತಿಕ ರಕ್ಷಣಾ ಉಪಕರಣಗಳು			
ಅ) ಕವಚಗಳು			
ಆ) ಮಾಸ್ಕ್			
ಇ) ಮೇಲ್ಪಟ್ಟಿ			
ಈ) ಕನ್ನಡಕ			
3) ಕೈತೊಳೆಯುವುದಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ಉಪಕರಣಗಳು			
ಅ) ಹರಿಯುವ ನೀರು			
ಆ) ಸಾಬೂನು			
ಇ) ಕೈ ಒರೆಸುವುದಕ್ಕೆ ಬಟ್ಟೆ			
4) ಬರಡುಗೊಳಿಸುವಿಕೆ ಹಾಗೂ ಸೋಂಕುರಹಿತಗೊಳಿಸುವಿಕೆ			
ಅ) ಬರಡುಗೊಳಿಸುವಿಕೆಯ ಸೌಲಭ್ಯಗಳು			
ಆ) ಸೋಂಕುರಹಿತ ವಸ್ತುಗಳ ಸೌಲಭ್ಯಗಳು			
5) ಆರೋಗ್ಯಕಾರ್ಯಕರ್ತರ ಸೌಲಭ್ಯಗಳು			
ಅ) ಮುಂಜಾಗ್ರತೆಯ ಬಗ್ಗೆ ಮಾಡಿರುವಂತಹ ಟ್ರೈನಿಂಗ್			
ಆ) ಮೇಲ್ ಅಧಿಕಾರಿಗಳ ಪಾಲನೆ			

Annexure 11

BLUE PRINT

	SELECTED AREA	**KNOWLEDGE**			**COMPREHENSION**			**APPLICATION**			Total item	Total %
		Items	Total no.	Score	Items	Total no.	Score	Items	Total no.	Score		
1	Universal precautions	1,2,3,4, 5,6	6	6	7,8	2	2	9,10.11	3	3	**11**	31%
2	PPE	12,13	2	2	14,15 ,16,1 7	4	4	18,19.2 0,21, 22,23,2 4,25	8	8	**14**	40%
3	Colour Code/Waste disposal	26,27	2	2	28,29	2	2	30	1	1	**5**	14%
4	Handwashing	31,32,3 3	3	3	34	1	1	35	1	1	**5**	14%
	TOTAL		**13**	**13**		**9**	**9**		**13**	**35**	**35**	

Annexure 12
List of Primary Health centers Under Anekal Taluk

Sl no	Primary Health Centers
1	Sarjapura
2	Dommasandra
3	Attebelle
4	Bellur
5	Chandapura
6	Guttahalli
7	Hebbagoodi
8	Anekal
9	Marasuru
10	Haragadde
11	Indalwadi
12	Jigny
13	Mahantalingapura

Annexure 13
Area map of Anekal Taluk

CERTIFICATE OF EDITING

This is to certify that the research work done by Ms.Rubey Peter Cherian, 2nd year M.Sc Nursing student of St.John's College of Nursing Bangalore. **"A study to assess the knowledge and practice of universal precautions among health workers in primary health centers under Anekal Taluk, Bangalore with a view to develop an information booklet"** has been edited by me.

She has to make no/ few/ many modifications before proceeding in her study.

Signature Maya Rajan M.A B.Ed.

Name of editor: Mrs. Maya Rajan

Designation: Retired teacher of Bethany High School.

Date: 27.11.2010.

ANNEXURE - 14

UNIVERSAL PRECAUTIONS

A study to assess the knowledge and practice of universal precautions among health workers in Primary Health Centres under Anekal Taluk , Bangalore with a view to develop an information booklet.

By
Ms Rubey Peter Cherian

Dissertation submitted to the
Rajiv Gandhi University of Health Sciences,
Bangalore, Karnataka.

In partial fulfilment of the requirements for the degree of

Master of Science in Nursing
in
Community Health Nursing

Under the guidance of
Prof.Mercy P.J.
Head of the department of Community Health Nursing

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St. Johns National Academy of Health Sciences
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2011